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DECEMBER 4, 1911-AUGUST 26, 1912

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 662.

FLOODS IN THE MISSISSIPPI VALLEY.

MESSAGE

FROM THE

PRESIDENT OF THE UNITED STATES,

TRANSMITTING

REPORT OF THE SECRETARY OF WAR REGARDING THE FLOOD CONDITIONS IN THE MISSISSIPPI VALLEY AND ASKING AN APPROPRIATION FOR THE PROTECTION OF LEVEES IN SAID TERRITORY.

APRIL 2, 1912.—Read, referred to the Committee on Rivers and Harbors, and ordered to be printed.

To the Senate and House of Representatives:

I am advised by the Secretary of War, whose report I transmit herewith, that the flood in the Mississippi Valley by reason of the rise in all of the rivers tributary to the Mississippi and Missouri at nearly the same time is likely in the lower part of the valley—that is, Missouri, Kentucky, Arkansas, Tennessee, Mississippi, and Louisiana—to reach a higher point along the levees than it has ever reached within recent memory, and that there is very grave danger that the levees may give way under this unusual pressure and that great damage may be done to property in the States mentioned, requiring, unless prompt action is taken, great future outlay in preserving the proper navigation of the streams.

These levees contribute not only to the safety of the adjoining agricultural lands and settlements but are also a part of the great governmental projects for the maintenance of navigation in the lower waters of the Mississippi.

It seems proper, therefore, that the Government should take immediate action to make the loss impending as little as possible. In view of the character of the emergency and the safeguards surrounding the expenditures made under the Corps of Engineers, I have no hesitation in asking for an appropriation of $500,000 as recommended by the Secretary of War.

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I urgently recommend an immediate appropriation so that no time may be lost in taking the necessary steps to prevent what but for governmental action may be a loss not only of many millions but of lives as well.

WM. H. TAFT.

THE WHITE HOUSE, *April 2, 1912.*

WAR DEPARTMENT,
Washington, April 2, 1912.

To the PRESIDENT.

SIR: I have the honor to transmit herewith the report of the Chief of Engineers on the condition of the floods in the Mississippi Valley, together with its inclosures. This report indicates that the flood height of the lower Mississippi will exceed that of any previous year and that immediate provision should be made in order, in cooperation with the local authorities, to prevent breaks in the levees and to take remedial measures.

The Chief of Engineers suggests the immediate appropriation of at least $350,000. In view of the fact that whatever is done must be done with the utmost promptness in order to be efficacious, and that all expenditures will be made under the Corps of Engineers, so that we are assured that no more funds than necessary will be expended, I recommend that this amount be increased to $500,000 and that that sum be appropriated immediately for this emergency.

Respectfully,

HENRY L. STIMSON.

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, April 2, 1912.

The SECRETARY OF WAR.

SIR: I am told by some of the Senators and Representatives from the lower Mississippi Valley States that a bill will be introduced in Congress to-day appropriating $350,000 to be immediately available for maintenance and protection of the existing levees on the lower Mississippi River which are endangered by the present flood and that an appeal in this connection will be made to-day to the President for his aid in the matter.

The secretary of the Mississippi River Commission at St. Louis and the district officers at Memphis, Vicksburg, and New Orleans have been telegraphed to for information. The secretary of the commission has replied that March 31 the gauge at Cairo was already one-tenth foot above highest ever known, that there is little possibility of fall for several days unless the levees break, and that there is almost a certainty of a slight further rise. He anticipated that a final flood height at least 1 foot above the present stage would arrive in a few days.

The district officer at Memphis has replied that the flood height in the lower Mississippi will exceed that of any previous year and that at Memphis the stage will probably reach a height of at least 2 feet above the height of all previous records.

The district officer at Vicksburg has replied that in his district he anticipates about 2 feet or more than in any previous flood.

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The stage of water indicated will come very close to the tops of all the levees, and may rise above them at a number of places between Cairo and the mouth of the river. Where the levees have been fully completed, crevasses are not expected; but the great height of the flood will put all the levees to severe tests and there will be danger of their breaking wherever any weakness may develop. In order to provide against serious damage to levees, funds must be at hand for immediate work wherever the levees are threatened. All of the Government plant available on the Mississippi River will be placed in commission, to help local levee boards, and materials for preventing breaks of the levees or repairing minor breaks will be needed immediately to an extent far beyond what the local boards can furnish. There will be full cooperation between the levee boards and the United States, so far as possible under present funds of the States and Federal Government; but the available funds are insufficient to carry out the work which it is now expected will become necessary and urgent. It is believed that the local levee boards and individual States will promptly respond to the emergency call with all the funds, plant, materials and labor within their capacities under existing laws. Under such circumstances, special emergency assistance from the Federal Government seems justifiable.

In this connection, copies are herewith inclosed of letters of yesterday from Senator Thornton and Congressman Ransdell, with the replies of Col. Townsend, president of the Mississippi River Commission, and myself.

It is recommended that this statement of the existing situation be laid before the President for his information, with recommendation for his favorable consideration of such appeals as may be made to him in this matter by Congress.

Very respectfully,

W. H. BIXBY,
Chief of Engineers, United States Army.

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, April 1, 1912.

The CHIEF OF ENGINEERS, UNITED STATES ARMY.

SIR: In reply to Senator Thornton's and Hon. J. E. Ransdell's inquiry as to the flood threatening the lower Mississippi River, I have the honor to state that, in my opinion, this flood will be the highest of which there has been any record.

While the levee line has been steadily and greatly strengthened since the last severe flood, it is as yet far from complete. The balance of funds now left available in the hands of the Mississippi River Commission is entirely insufficient to protect the levees against such flood.

If assistance is to be given by the United States, such work as can be advantageously done by the Mississippi River Commission between now and the passage of the flood will, according to experience with preceding floods, require an immediate appropriation of at least $250,000.

Very respectfully,

C. McD. TOWNSEND,
Colonel, Corps of Engineers,
President Mississippi River Commission.

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WASHINGTON, D. C., *April 1, 1912.*

Gen. W. H. BIXBY,
Chief of Engineers, United States Army.

GENERAL: Won't you kindly inform us latest information in regard to floods on the Mississippi River, especially that portion which is under control of the Mississippi River Commission? We infer from the press reports that the situation is very bad, and many valuable levees which have been constructed by the Government are liable to be destroyed.

Our local people in Louisiana (and we feel that we can speak also for those in Arkansas and Mississippi) will do everything in their power to protect the levees, and it will be necessary for the Government to contribute toward same.

Kindly state what you think should be done by the Government in this regard, and what specific appropriation for that purpose should be made. State also whether or not the emergency is very great.

Respectfully, yours,

J. R. THORNTON,
United States Senator from Louisiana.

JOS. E. RANSDELL,
Member of Congress for Louisiana.

[First indorsement.]

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, April 1, 1912.

Respectfully referred to Col. C. McD. Townsend, Corps of Engineers, president Mississippi River Commission, for report.

By command of the Chief of Engineers:

H. TAYLOR,
Lieutenant Colonel, Corps of Engineers.

[Second indorsement.]

WASHINGTON, D. C., *April 1, 1912.*

Respectfully returned to the Chief of Engineers, United States Army, inviting attention to my report of this date in separate letter herewith.

C. McD. TOWNSEND,
Colonel, Corps of Engineers,
President Mississippi River Commission.

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, April 1, 1912.

Hon. J. R. THORNTON,
United States Senate.

Hon. JOSEPH E. RANSDELL,
House of Representatives.

GENTLEMEN: Replying to your letter of to-day I inclose herewith copy of a statement from Col. C. McD. Townsend, Corps of Engineers, president of the Mississippi River Commission, covering the situation.

His views are concurred in.

Very respectfully,

W. H. BIXBY,
Chief of Engineers, United States Army.

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62D CONGRESS 2d Session } HOUSE OF REPRESENTATIVES { DOCUMENT No. 679

UNITED STATES BUREAU OF EDUCATION

BULLETIN, 1911, NO. 14 - - - - - - - WHOLE NUMBER 461

PROVISION FOR EXCEPTIONAL CHILDREN IN PUBLIC SCHOOLS

Prepared by

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LEONARD P. AYRES
Director, Division of Education, Russell Sage Foundation

APRIL 4, 1912.—Ordered to be printed

WASHINGTON
GOVERNMENT PRINTING OFFICE
1912

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[H. Res. 425.]

IN THE HOUSE OF REPRESENTATIVES,

April 4, 1912.

Resolved, That there be printed for the use of the House of Representatives five thousand copies of the United States Bureau of Education Bulletin, nineteen hundred and eleven, Numbered Fourteen, as issued by the United States Bureau of Education, and entitled "Provision for Exceptional Children in Public Schools," and all to be delivered to the superintendent of the document room of the House of Representatives for distribution.

Attest:

SOUTH TRIMBLE, *Clerk.*

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LETTER OF TRANSMITTAL.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, October 2, 1911.

SIR: There are many children in attendance upon the public schools of our country who, for one reason or another, can not work most satisfactorily to themselves or others when classified with the great majority of the children. School authorities have seen for many years that the presence of such children in the regular classes is detrimental to the progress of both the exceptional and the non-exceptional. In the manuscript entitled "Provision for Exceptional Children in Public Schools," herewith transmitted, Supt. J. H. Van Sickle, of Springfield, Mass., Dr. Lightner Witmer, Director of the Psychological Laboratory and Clinic of the University of Pennsylvania, and Dr. Leonard P. Ayres, Associate Director, Department of Child Hygiene, Russell Sage Foundation, have set forth the results of their investigations and their suggestions and recommendations to the public-school workers of our country in regard to the educational care these children need. In addition to the detailed discussions relating thereto, extended information concerning the number of cities in our country attempting to meet the problems suggested is furnished in tabular form. The authors have tentatively classified those children who need this special care in public schools into ten groups. Some enter late and need help to make up their work; others are exceptionally talented and should be allowed to make as rapid progress as consistent with thoroughness; others enter speaking only a foreign language and at first need special and almost exclusive drill in English; still others are slow, backward, or defective in one way or another, but not to such a degree as to require the care of public institutions for the defective classes. It is a valuable piece of work and will be of much help to all who are seeking for more effective and just classification of public-school children.

I accordingly recommend the publication of these results as a bulletin of the Bureau of Education.

Very respectfully, P. P. CLAXTON,
Commissioner.

The SECRETARY OF THE INTERIOR.

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PROVISION FOR EXCEPTIONAL CHILDREN IN PUBLIC SCHOOLS.

CHAPTER I.

THE DISCOVERY OF THE EXCEPTIONAL CHILD.

THE SOCIALIZATION OF PUBLIC-SCHOOL WORK AND THE INDIVIDUALIZATION OF THE CHILD.

The progress of educational work in the last 20 years furnishes an impressive display of social functions assumed by the schools of this and other countries. Medical school inspection, school feeding, school nurses, and special classes for truants, physical defectives, and backward children are all separate evidences of a single movement looking toward the socialization of public-school instruction and involving the public-school authorities in the direct responsibility for most of the child's life and development.

On the one hand, education is becoming socialized and is giving increasing recognition to community interests. On the other hand, it has resulted, in respect to the children, in a greater individualization. Education is primarily concerned with the task of transmitting from one generation to the next the intellectual traditions and the moral standards which have been acquired by the race. The eye of the teacher, therefore, is mainly directed to the subject matter of instruction, or to the code of morals and manners which it is desired to impress upon the child. This is as it should be. All efficient work is accomplished only through concentration of attention and through the direction of effort toward a single result. The public school must never give up as its chief function the teaching and training of children in relatively large groups, by teachers who are impressed with the importance of the subject matter of instruction, and who look upon the class as a fairly homogeneous unit.

Nevertheless, provision must also be made within the modern public school for training many children not as members of a group, but as individual or exceptional children. The social purpose of this kind of individualized educational treatment may be considered the keynote of our American civilization. Children are not born equal, nor can we ever thrust equality upon them; but American education can see to it that every child has a fair opportunity to

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develop the mental capacities with which it is endowed at birth. The public schools may eliminate in large measure the accidents of social and financial position and the circumstances of the child's individual history as determining factors in its career. Every child should reach adult age with his brains developed to the full measure of their efficiency. This is recommended not merely out of sympathy for the child, but also because the community needs every bit of brain power available, whether this brain power appears in the family of a Pennsylvania miner, a New England farmer, or a Pittsburgh millionaire. Anything less than this spells retarded or arrested development. The highly gifted child can be as much retarded by the circumstances of his life history or by the school system as is the congenitally dull or mentally defective child. This bulletin is conceived as having the purpose of making available some facts and considerations which it is believed should determine the public-school treatment of the exceptional child.

What is normal, even what is supernormal, often fails to arouse attention. The abnormal, the pathological, the deficient, and the defective—these first win the attention of society. Among primitive races this attention is accompanied by feelings of horror, even of terror, and the abnormal are sometimes eliminated by violent means. Next, they are segregated, under the spur of a philanthropic impulse, and are supported in institutions, or they are retained under merely custodial care. This segregation is partly for the benefit of society, and only partly for the purpose of taking care of society's helpless members. It is relatively late in the history of the world that the discovery is made that the training of certain groups of these abnormal or defective social elements presents a problem of scientific and social importance.

INSTITUTIONS OR SCHOOLS FOR THE DEAF AND BLIND.

In the year 1744 a Portuguese Jew named Pereire gave before the Academy of Science at New Rochelle, France, a most dramatic demonstration of the power of the human intellect to solve a problem of special training. He presented before the members of the academy a boy who had been born deaf, and whom he had taught to talk. From that day the world could no longer regard the training of congenitally deaf children as an impossibility, and yet, despite this brilliant solution of a problem in scientific education, the world was slow to recognize the value of Pereire's work, and it was not until the year 1867 that deaf children in the United States were taught by the oral method.

Institutions for the training of deaf children had been established many years before. This type of special school had its origin in the foundation of a school for the deaf by the Abbé de l'Épee in 1771 in

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Paris. Inspired by Pereire's example, but unacquainted with Pereire's scientific knowledge and unpenetrated by his educational genius, the Abbé de l'Épee was moved more by the spirit of philanthropy to care for and educate deaf-mutes. Pereire was perhaps too far ahead of his time to impress the world with the importance of his achievement. Moreover, he never inducted others into the secrets of his method, and with the single exception of Heinicke, in Germany, those interested in the training of deaf children failed during almost a century to grasp the physiological and psychological elements of the problem.

The world has now caught up with Pereire, and public education is about to enter into the full enjoyment of the results of his labors and of the labors of many others in this and cognate fields. It behooves all who are interested in the development of all types of special education to see to it that the work which scientific men within the field of education are accomplishing shall be made available to others. The work must be thoroughly grounded upon scientific principles, and scientific workers as well as trainers of exceptional children must be provided with the professional equipment and the physical means to undertake this work satisfactorily.

The successful training of deaf children stimulated an interest in the blind. By the beginning of the nineteenth century an initial attempt to provide for the training of these two classes of defective children had been made by the civilized nations of Europe and America.

REFORM SCHOOLS.

The next group of exceptional children to be provided for were those who stood in danger of growing into an adult life of criminality; in other words, children in need of special moral training. This movement was inspired partly by the general movement for prison reform in England and partly by the work of such men as Pestalozzi, who were keen to recognize the danger to the continental countries arising from the number of destitute, vagrant, and morally neglected children who had been deprived of their natural protectors by the Napoleonic wars.

In the United States, "houses of refuge" began to be established in 1824, and three of them were soon in existence—one in Boston, one in New York, and one in Philadelphia. These institutions were started not as a part of the prison system, but as an experiment in special education. No one can comprehend the history and present status of houses of refuge and other reform schools who fails to recognize that the inspiration for their establishment was exactly the same as that which led in the last decade of the nineteenth century to the founding of parental schools and public day classes for truants and disciplinary cases. The supreme court of Pennsylvania has decided

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in a well-known case that the house of refuge is not a penal institution, but a school. The children sent to the reform school become the wards of the State until they are 21, not because of the overt act, but because their actions have proved them in need of special oversight and moral training, or else their home environment or their personal characteristics prove them morally endangered.

IDIOCY AND RETARDATION.

The effort to train the group of children variously designated as feeble-minded, imbecile, or idiotic led first to the scientific appreciation of the problem of retardation and to a real understanding, mainly through the work of Seguin, of the problem of special education in relation to arrested or retarded development.

As in most discoveries, accident and misapprehension played a large part in gaining for us a scientific comprehension of "retardation." A little more than a century ago, in the year 1797, a boy apparently about 12 years of age was found running wild, like a beast of the field, through the forests of Aveyron, in the southern part of France. No one ever knew his origin, or where or how he had spent the years between his birth and his discovery. Devoid of the faculty of speech, he showed very few signs of intelligence and made his wants known through the simplest of inarticulate cries. He selected his food by the sense of smell, and what he chose proved him unaccustomed to the dietary of civilization. He drank by lying flat upon the ground and thrusting his mouth beneath the surface of the water. He often walked on all fours, and fighting with his teeth like an animal, he resisted the placing of garments upon his back, and made unremitting efforts to escape. Subjected to confinement and forced to submit to the ways of civilized life, he proved to be fairly tractable.

Brought to Paris he excited the liveliest interest and was presented as an object of scientific curiosity before the French Academy of Science. Pinel, the famous physician of the insane at Bicetre, declared the child idiotic and therefore untrainable. But Itard, a physician of that first institution for the training of deaf-mutes, established at Paris by the Abbé de l'Épee, believed the boy to be merely wild and untaught. He undertook this boy's training, admitting the close resemblance of the boy's condition to idiocy, but believing that he could be restored to the normal mental life of humanity, because of his conclusions as to the "cause and curability of that apparent idiotism." To express Itard's opinion in modern language, the boy in his opinion was not a case of idiocy, but a case of arrested or retarded development, the result of neglect and separation from the normal human environment.

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The outcome of Itard's self-assumed task was to prove him doubly in the wrong. The result of his training showed first that the boy was an idiot and secondly that an idiot could be trained. Itard's failure—for he could not restore this boy to normal mental condition—is one of the great successes in the history of education and mental science. Itard himself scarcely recognized the significance of his own success. Interested in the boy as a primitive savage who had been retarded in development because of the absence of the normal human environment, Itard failed to see that this boy, idiot though he was, suffered from an arrest or retardation of development due to physiological causes resident within himself. The discovery that idiocy is retardation was left for Itard's pupil, a physician, psychologist, and educator, Edward Seguin.

On the basis of the accomplishment of Pereire and Itard, Seguin made the deduction that feeble-mindedness is an arrest of mental development necessarily consequent upon the imperfect sense organs and organs of motion with which these children are endowed at birth. He proposed to exercise the imperfect organs so as to develop their functions, as Pereire had previously developed the organs of articulation in deaf-mutes, and to train the functions of the organism so as to develop the imperfect organs. He defines his system as "the adaptation of the principles of physiology through physiological means and instruments to the development of the dynamic, perceptive, reflective, and spontaneous functions of youth."

Seguin began his first experiment in the training of a feeble-minded child in 1837. So successful was this expert physiological education of all the senses that Seguin won for himself, as Itard had before him, the commendation of the Academy of Science. In 1842 he formed the first small class of feeble-minded children, whose training he undertook at the Bicetre.

Seguin's work became a model for the countries of the civilized world. Inspired by his example and assisted by his treatise on idiocy, published in 1846, training schools for feeble-minded children were established first in Massachusetts in 1849, and in the next few years in New York, Pennsylvania, and other States of the Union.

The next contribution to an understanding of the meaning of the word retardation came directly out of school practice. First among civilized nations Germany addressed itself to the task of educating every child, long before this county had even awakened to the fact that many of its prospective citizens were not receiving sufficient school training to cast an intelligent vote. Just as soon as compulsory education laws were partially enforced and a serious effort made to educate every child, it was found that there are children not properly called feeble-minded who are yet incapable of making normal progress in the ordinary day schools. The appreciation of the

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necessity of providing a special form of training for these backward pupils led to the organization of the first special class in Dresden in 1865.

In this country the compulsory education laws began to be really enforced in a few States about 1890. As a consequence truant schools, disciplinary schools, and schools for backward children came into existence in some States. The idea of establishing day classes and schools for deficient children appears, however, to have been first introduced to American teachers by August Schenck, of Detroit, in 1878, in an address to the American Teachers' Association. Dr. Andrew Rickoff, superintendent of schools for the city of Cleveland, acting on Schenck's suggestion, established two classes in Cleveland, limiting them, however, to disciplinary cases. The second class was established in Chicago in 1892. This is still in existence, and other special classes have been added. New York established its first class in 1895, under the direction of Miss Elizabeth Farrell. Several other classes have since been formed, and in 1905 adequate supervision was first provided through the appointment of Miss Farrell as inspector of ungraded classes. In the same year, or a year later, a school was organized at Waukegan, Ill., by Supt. Hall, designed for backward children of all kinds, those mentally deficient as well as those retarded through lack of educational advantages.

The first city to plan for a complete organization of these classes directly under the city superintendent was Providence, R. I., which formed six classes for truants and disciplinary cases in 1893, and a separate class for backward children in 1896. Springfield, Mass., organized a special class in 1898, under Supt. Balliet. Boston and Philadelphia followed in 1899; Cleveland established four classes in 1905, and Portland, Me., established a class in 1906.

Another movement undoubtedly played an important part in the awakening of the school authorities and general public to the existence of retardation as an educational and social problem. The introduction of medical inspection into the schools, originally for the detection and prevention of contagious and infectious diseases, led to the discovery and treatment of physical defects, which were found to be a powerful factor in retarding the school progress of many children. Medical inspectors and school nurses, and in more recent years social visitors, are appointed in many cities as an integral part of the school system. Without them it would be impossible to realize the purpose for which the schools exist. The medical profession, both in this country and abroad, has made contributions of great value bearing upon the physical causes of arrested and retarded development.

In the course of time the term "retardation" has come to cover types of children hitherto considered normal. Compared with imbeciles and idiots these children are undoubtedly normal, but com-

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pared with those children who are passing upward through the grades without meeting serious obstacles to their progress, these children manifest an arrest or retardation of development. In some this is dependent upon internal physiological causes, a defect of the brain or nervous system, even though a minor defect. In others it is due to physical defects, bad eyesight or hearing, which only indirectly albeit seriously affect the normal development of the brain. We have come to recognize retardation as a mental status, not a brain disease or defect as is idiocy. Retardation is a stage of mental development which can only be defined with reference to what we assume to be the regular course of normal development. Any child, the functions of whose brain are not developed up to the normal limit for his age, is suffering from retardation. A status or stage of progress which may be retardation for one child may not be retardation for another. The physiological and psychological age of a child need not correspond to his chronological age. We have come to see that children who stand at the head of a class in school may be more retarded than children who are at the bottom of a class. There are those who contend that the schools give relatively less training to those who are mentally well endowed than they do to the average pupil or to the dullard.

When retardation is thus defined in terms of individual development the necessity clearly arises for the public schools to provide for the highly gifted children as well as for those less fortunate in natural endowment. The question of importance is as to the number of these exceptional children in the schools. Up to the present time school statistics have limited themselves to enumerating the retarded children, using that term to indicate those children who are behind grade for their age. Pedagogical or school retardation follows from the supposition that a child enters upon his first year of school work before he has passed his seventh birthday. If he advances one grade each year he will complete the eight years of the elementary course before he has passed his fifteenth birthday. This establishes a theoretical age limit for each grade, apparently not excessive in its educational requirements; for the child who leaves the elementary schools in his fifteenth year can not complete the high school before his nineteenth year or graduate from college before his twenty-third year. Supt. Bryan, of Camden, N. J., first collated statistics of retardation based upon the enrollment figures of that city for two successive years, 1904–1906. He found in the elementary schools of Camden that 72 per cent of the children exceeded the theoretical age limit; that 47 per cent exceeded the age limit by one year or more; 26 per cent by two years or more; 13 per cent by three years or more; and 5 per cent by four years or more.

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It is generally agreed to call a child retarded or backward who exceeds the age limit by two years or more. The discovery of the existence of over-age and retarded children, and the development of the methods of determining their number, is the work of Maxwell, Bryan, Cornman, Falkner, and Ayres. The literature of retardation has rapidly acquired extensive proportions. The working out of the many practical problems which arise in connection with the treatment of backward children will have consequences which will affect every type of child in the public schools.

SPECIAL CLASSES FOR PHYSICAL DEFECTIVES.

In this country and also on the continent of Europe, sporadic efforts have been made in the public schools to care for various classes of physical defectives. In the United States, especially successful efforts have been made to train in public day classes deaf children and blind children. The best day classes for such children have been located in the Middle West, probably because in that locality adequate provision had not been made by the State in the establishment of institutions for their care and training. It would seem as though in the United States the two systems of handling deaf and blind children will be on trial for some years, to determine whether the custodial school or the day school is the more efficient and economical, and also which is the better adapted for the all-round development of the child.

In England and the United States special classes have been organized for crippled children, in many places the children being transported to the schools from their homes. In Baltimore, special classes have been established for epileptic children. The development of preventive medicine, together with the progress of medical school inspection, has led in many localities to the organization of open-air schools and of special schools for children suffering from tuberculosis.

THE GIFTED CHILD.

The problem of the gifted child may be said to have first provoked action when Dr. William T. Harris, as superintendent of the schools of St. Louis, introduced, as long ago as 1872, a plan for making promotion fit different intellectual grades. In many localities the development of a fixed and rather static grading system and promotion system, particularly when promotions were made only at yearly intervals, led to the discovery that many children are kept back unduly, owing to the "lock-step" system. Many efforts have been made toward the solution of this problem—ungraded classes, more rapid promotion through special tutoring and systems of flexible grading, the method of dividing grades up into groups according to

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intellectual ability, etc. Several cities have made provision for the more rapid progress of gifted pupils by gathering them into centers where, under especially skilled teachers, they pursue a curriculum modified by the early introduction of some of the high-school studies. It is probable that very many men have been induced to see more clearly the necessity of providing for the gifted child, since so much attention has been given to the backward and defective child.

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CHAPTER II.

PROPORTIONS OF SCHOOL POPULATIONS COMPOSED OF EXCEPTIONAL CHILDREN.

If all of the children in our public schools could be ranked according to their intellectual abilities, it is probable that a rough classification would group them about as follows:

Talented	4 per cent.
Bright Normal Slow	92 per cent.
Feeble-minded	4 per cent.

The 4 per cent here designated as feeble-minded may for administrative purposes be divided into two groups. The lower one includes about one-half of 1 per cent of the entire school membership and consists of children of the lowest grade of mentality found in the public schools. They are genuinely mentally deficient, and can not properly be treated in the public schools. They are institution cases, and should be removed to institutions.

Ranking just above these are the remaining 3½ per cent who are feeble-minded but who can be given a certain amount of training in special classes in the public schools. This is not the sort of treatment that they should ideally receive, for few of them can ever become independent members of the community, but it is the sort that they should have if they are to be dealt with at all by the public-school systems as now constituted.

The foregoing statements in regard to this lowest group in the intellectual scale are of necessity based on meager evidence, for the reason that few comprehensive psychological surveys of entire school systems have been conducted. They represent the conclusions arrived at by those who have conducted such investigations as have been made. The best evidence bearing on the problem is to be found in the following reports:

Two Thousand Normal Children Tested by the Binet Scale. The Training School, January, 1911.

[illegible] Classification of Clinic Cases. Holmes. Psychological Clinic, [illegible]

[illegible] Subnormal Children? The [illegible] September, 1910.

Report of Committee on Special Education. Report of United States Commissioner of Education, 1910, Vol. II, pp. xxi–xxv.

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SLOW, BACKWARD, RETARDED, OR LAGGARD CHILDREN.

Ranking above the feeble-minded group comes a much larger class of children, constituting anywhere from 10 to 50 per cent of the entire school membership, made up of those who are not mentally deficient, but who make slow progress through the grades. In point of numbers and importance these children constitute a great, if not our greatest, school problem. They make up about one-third of the total school membership in the average city, and in most localities their numbers are distinctly greater among the boys than among the girls.

These backward children who take more than the normal time to complete the work of each grade are the children who usually spend their entire school lives in the lower grades, and fall out of school permanently without completing even the elementary course. It is this pedagogical retardation among great numbers of children who have no congenital mental defect that is responsible for the school evils known as repetition, retardation, and elimination.

Data concerning the number of these children in different city school systems may be found in a large proportion of all of the numbers of educational periodicals issued during the past four years, and in most of the recent reports of city school superintendents. Summaries of conditions are presented by Ayres in "Laggards in our schools," Chapters IV and VII, and in the Report of the Commissioner of Education, 1910, Vol. II, pp. xxi to xxv.

NORMAL AND BRIGHT CHILDREN.

The largest group is that composed of the normal and bright children who have no great difficulty in completing the work of the grades satisfactorily in about the alloted time. The size of this group in school systems as commonly organized varies from about 40 per cent to about 80 per cent of the entire membership. This wide range of variability does not indicate that the children of different cities are of such varying degrees of mental ability as the figures would seem to show. It merely reflects the fact that in some cities the demands of the school curriculum and the teaching methods are much more nearly in accord with the abilities of the children than they are in others.

TALENTED OR EXCEPTIONALLY BRIGHT CHILDREN.

Quantitative evidence as to the number of exceptionally bright children found in our public schools is even more rare than is such evidence with respect to the feeble-minded.

Such data as are available seem to indicate that about 4 per cent of the entire school membership may fairly be rated as exceptionally bright or talented. Reference has already been made to the report of the testing of 2,000 normal children by the Binet scale, conducted

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by the New Jersey Training School. This test showed that somewhat more than 4 per cent of the school children were mentally more than one year ahead of their ages. These are the children who are born with exceptional endowments, and go through the public schools with greater than average ability and rapidity.

Another bit of evidence is found in Volume II of the 1910 Report of the Commissioner of Education, in a table printed on page xxiii. This table presents figures from 319 cities, showing that in the average city about 4 per cent of the pupils are one year or more under age for their grades.

Still further evidence is presented by Ayres, in Chapter VII of "Laggards in our schools," where figures are given from different cities showing that the number of children making more than normally rapid progress through the grades ranges from 1 to 5 per cent of the entire membership.

That these unusually able children have been given scant attention in our public schools is shown by the fact that at the present time only five cities are known to have special classes for exceptionally gifted children. These cities are Baltimore, Worcester, Indianapolis, Lincoln, and Rochester.[1]

SUMMARY.

1. In a normal school population about one-half of 1 per cent of the children are genuinely mentally deficient and should be treated in institutions.

2. Ranking above these comes a group of feeble-minded children, constituting about 3½ per cent of the school membership. These children are educable in special classes of public schools, but few of them can become independent members of the community.

3. Ranking above these children comes a larger group of mentally sound, but slow, children. This group constitutes from 10 to 50 per cent of the membership, and in the average city amounts to about 33 per cent. These are normal individuals for whom the present school curriculum and régime are ill adapted. In most cities a majority of them are boys.

4. Ranking above these pupils is the large mass of school children who make substantially normal progress through the grades and some of whom make rapid progress. These constitute from 40 to 80 per cent of the school membership.

5. At the upper end of the scale comes a group of unusually bright or talented children, composing about 4 per cent of the total number. Only five cities have so far organized classes for these supernormal children.

[1] In answering the questionnaire, a copy of which appears on p. 31, 54 superintendents write "yes" after item No. 14; but it seems quite certain that the great majority of those answering thus regard some form of flexible grading as the special provision meant.

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CHAPTER III.

THE CLASSIFICATION OF EXCEPTIONAL CHILDREN.

We assume that this bulletin is addressed to those who are interested primarily in questions relating to the proper treatment of exceptional children rather than in a scientific classification based upon a recognition of the causes of exceptional character in children. The most significant distinction is that between children who can not properly be educated in the public schools and children who can be adequately instructed and trained in day classes. We shall therefore make our primary classification the distinction between institution cases and public-school cases.

It is difficult to state any one basis for the establishment of this classification. There are at least three grounds for this distinction. In the first place, there are children idiotic and imbecile, children morally degenerate and delinquent, children severely crippled or suffering from a disease like epilepsy, whom any superintendent would recognize as being unfit for association with normal children in the grade. Many of these children are the subjects of custodial treatment only, even inside the institution in which they may be segregated.

A second basis for this distinction has reference to the curability or relative permanence of the child's condition. Certain children who are approximately normal in appearance and in mental character are yet hopelessly degenerate. For their own safety and for the safety of the children with whom they may be associated in the public schools, it is desirable that they should be removed from the schools and placed in institutions. Some of them are educable and can perhaps be trained in the public day schools, but it would be undesirable for them to be thus treated. The most dangerous types of moral imbeciles come in this class. These children some competent authority connected with the public-school system should be quick to recognize. Experts should be called in and the school authorities ought to lend their every assistance to obtain legal sanction for the segregation of these children in special institutions, in order that they may not pass their lives among normal children, with the danger of moral contagion and the possibility of propagating their kind.

The third basis for the distinction between an institutional and a public-school case is amenability to treatment in the public schools and institutions. It stands to reason that an institution which con-

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trols every hour of a child's existence—sleeping or awake—ought to be able to provide more effective training for difficult cases than can the public schools in day classes. In distinguishing between those cases which should be sent to institutions and those which should not we must take into consideration whether the child requires the kind of work which the public school can not supply in day classes.

A most confusing circumstance arises from the fact that the various types of exceptional children shade off into normal types of children. From children who are slightly slow and dull by nature, there is a steady gradation through children that are only touched with feeble-mindedness to children who are classified in institutions as "high-grade imbeciles," "middle-grade imbeciles," "low-grade imbeciles," "superficial, and profound idiots." Ordinary teachers, superintendents, and casual observers will have no difficulty whatever in excluding idiots and low-grade imbeciles from the public schools. Indeed, it is very rare that children below the grade of middle-grade imbeciles are found in the public schools. The border-land cases, high-grade imbeciles, perhaps even middle-grade imbeciles, will be interpreted very diversely by those who are not familiar with these classes of children. Some teachers and superintendents will think that they have in middle-grade imbeciles very good material to work with in the public schools; whereas expert opinion may advise the removal of such children from public day classes to institutions.

Another circumstance is that many children are what some call *apparently* feeble-minded or imbecile; that is to say, they present all of the features of permanent imbecility excepting that they very rapidly recover or are restored to approximately normal condition under proper physical and mental treatment. Some distinguish these types of children as suffering on the one hand from imbecility and on the other from pseudo-imbecility. We distinguish between them as being permanently feeble-minded or imbecile, and curably retarded in development. Two children may present exactly similar characters and yet one child may, as the result of a year's special training, be restored to the grades and be capable of continuing in the grades and making normal progress; whereas the other child may, after a year's trial, be finally sent to the institution to which he should have been sent without the waste of a year's time.

The expert is more capable of classifying children into these two groups of institutional and public-school cases than is the uninstructed teacher or layman; but there are doubtful cases where even expert opinion is unable to decide. There will, therefore, always be reason for keeping some of these children in special classes, under observation pending a final diagnosis.

We shall now briefly and concisely distinguish between those cases which we regard as institutional and the cases of those whom we

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regard as susceptible of treatment in special classes. It will be necessary for us to recognize a third group, comprising types of children concerning whose treatment, whether in institutions or in public day classes, there may be diversity of opinion and practice. It must be premised that our treatment is largely experimental and will probably remain so for many years to come. What place institutions for the training of blind, deaf, and other types of exceptional children shall play in the future and especially in those communities which are approaching this problem for the first time, it is impossible for us to say. Modern criticism of institutional life has led to many reforms in institutional procedure. Much objection that can at present be laid against many institutions for children will undoubtedly be set aside in the future as institutions encourage and develop separation into small groups; for example, separate homes or cottages. There can be no doubt that an institution which need not consider per capita cost can provide children with homes and schools of a character which will conserve the whole life of the child. On the other hand, there is a strong tendency toward the unification of all educational institutions and there is little doubt but that the public schools will be held responsible by many communities for the educational treatment of types of children who in the past have been committed to special institutions. For some cases, e. g., persistent truants, disciplinary cases, children suffering from ill health, children who are a heavy economic tax upon their families, and children whose home life negatives completely the influence of the school, the public schools of the future may be required by an awakened community to provide parental schools, where children will be boarded as well as educated, and where the advantages of home training and discipline will be combined with the special class of instruction.

The grouping which we make, therefore, is to be regarded as a tentative or temporary effort, one which we shall feel under no obligagation to defend but which we embody in this bulletin for the purpose of assisting in clarifying the thought of those who are professionally interested in the treatment of exceptional children.

I. INSTITUTIONAL CASES.

(To be dismissed from the oversight and care of the public school authorities.)

1. Morally insane children.
2. Violently insane children.
3. Demented children.
4. All feeble-minded children below the grade of middle-grade imbecile. (Barr's classification.)
5. High-grade moral imbeciles.
6. Severe cases of epilepsy.
7. Cases of contagious and infectious diseases. (Some to be dismissed temporarily; some for prolonged periods.)
8. Children helplessly crippled or suffering from revolting physical deformity.

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II. CHILDREN FOR SPECIAL CLASSES OR SPECIAL INSTRUCTION IN THE PUBLIC SCHOOLS.

1. Foreign.
2. Late entering.
3. Backward but capable of rapid restoration to normal grade.
4. Dull and feebly gifted.
5. Children requiring vocational training.
6. Children of precocious physical development, especially of precocious sex development.
7. Exceptionally gifted or able children.
8. Children suffering from various physical defects of minor character but interfering with their progress and unfitting them temporarily or permanently for the grades.
9. Speech cases.
10. Social cases; those whose retardation is chiefly due to home conditions calling for the services of a social visitor as well as a special teacher.

III. CHILDREN OF UNCERTAIN CLASSIFICATION. INSTITUTIONAL OR SPECIAL CASES.

1. Blind and semi-blind.
2. Deaf and semi-deaf.
3. Delinquents, including persistent truants.
4. High-grade imbeciles. (Barr's classification.)
5. All feeble-minded children of higher grade than high-grade imbeciles.
6. Crippled children.
7. Children suffering from epilepsy in mild degree or from nervous or other diseases rendering them difficult or improper members of ordinary classes.

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CHAPTER IV.

METHODS FOR DETERMINING THE EXTENT AND DEGREE OF RETARDATION IN CITY SCHOOL SYSTEMS.

The term "retarded" is used with increasing uniformity to describe the condition of children who are too old for their grades. It describes but it does not attempt to explain. There are only two reasons why children may be too old for their grades—they may have entered school late or they may have progressed slowly. In either case the term "retarded" is used by educational economists to describe their condition.

THE AGE AND GRADE TABLE.

The quickest and easiest way in which a school superintendent can discover how many retarded children there are in his school system is by means of a table showing how many children there are of each age in each grade in his schools. The table on the following page shows the distribution of children by grades and ages in the schools of Elmira, N. Y., in October, 1910.

It will be noted that there is a heavy broken line running through the table. In the first grade this line divides the figures so as to leave on the left those referring to the children less than 8 years of age and on the right those 8 years old and older. That is, the figures on the left refer to children of normal age and those on the right to over-age children. The line is broken to make a similar division between the figures for the 8 and the 9 year old children in the second grade, between the 9 and the 10 year old ones in the third grade, and so on for all the grades. The criterion used defines a child as of normal age in each grade as follows:

Grade.	Normal age.	Grade.	Normal age.
1	Under 8 years.	5	Under 12 years.
2	Under 9 years.	6	Under 13 years.
3	Under 10 years.	7	Under 14 years.
4	Under 11 years.	8	Under 15 years.

This standard for dividing children into normal and over-age groups in each grade has received general acceptance in the past few years and is now in common use in city, State, and National reports.

Referring again to the table, it will be noted that there are three columns at the right-hand end, the first of which gives the total number of children in each grade, the second the number of over-age

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ELMIRA, NEW YORK.

Age and grade distribution, October, 1910.

Grade.	Ages.													Total.	Over-age.	Per cent.
	5	6	7	8	9	10	11	12	13	14	15	16	17			
1	144	262	161	61	14	4	.....	2	.....	.....	.....	.....	.....	648	81	12
2	.....	45	164	166	75	20	9	7	1	.....	.....	.....	.....	487	112	23
3	.....	4	49	166	119	69	34	22	8	2	.....	.....	.....	473	135	29
4	.....	.....	2	32	148	159	93	49	23	13	2	.....	.....	521	180	34
5	.....	.....	.....	.....	24	97	109	107	64	41	14	1	.....	457	227	49
6	.....	.....	.....	.....	1	18	87	130	95	58	24	3	.....	416	180	43
7	.....	.....	.....	.....	.....	1	13	82	109	107	48	13	3	376	171	46
8	.....	.....	.....	.....	.....	.....	.....	20	67	97	59	24	6	273	89	30
Total	144	311	376	425	381	368	345	419	367	318	147	41	9	3,651	1,175	32

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children, and the third the per cent that these children are of the whole number. At the bottom is a row of totals giving the number of children at each age, the total number of children, and the number and per cent of over-age ones.

Age and grade tables have suddenly come into common use, because superintendents are discovering that they are the most valuable single form of statistical statement used by schoolmen. They are basal to studies of retardation. By their use a superintendent can easily find out how many over-age children there are in his school system, where they are, and who they are.

For purposes of comparison of conditions in successive years or between different cities it is essential that the date of gathering the data and the basis of enumeration be uniform for all the cities. The most satisfactory basis of enumeration is the enrollment on a given date and the best date is probably that adopted by the United States Bureau of Education and the United States Immigration Commission, which is the second Monday in December.

THE METHOD OF LOCATING THE 13-YEAR-OLD CHILDREN.

A still simpler method for comparing conditions in different cities, or in different parts of the same school system, or for the same city in different years is that proposed by Dr. Roland P. Falkner in the Psychological Clinic for January, 1911. This is based on discovering the whereabouts of all of the 13-year-old children in the school system.

For example, reference to the Elmira table for 1910 shows that there were 13-year-old children in all of the grades from the second to the eighth, inclusive. These children have almost reached the limit of the compulsory school period and it is certain that those not within a year or two of graduation will nearly all drop out without completing the course.

In the case in point the 13-year-old children in the sixth and lower grades number 191 out of a total of 367, or 52 per cent. This fact is one significant measure of the efficiency of this school system. It means that 52 per cent of these children are educational misfits. They are wrongly placed in the grades, they hinder the other children, and they make the work of the teacher harder and less effective. Most of them will leave school without completing the course. The method of locating the 13-year-old children is significant because it furnishes a measure of what the school system accomplishes for the children within the period of compulsory education. It is most simple and easily applied. The necessary data can be gathered in most schools in a few hours and to secure them involves no delay and requires no installation of new forms of record keeping.

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REPEATERS.

A third simple method for discovering which children are not making satisfactory progress consists in having each teacher report the number of children who are doing the work of their present grades for the second, third, or fourth time. These children are termed repeaters. The principal advantage of the method is that in gathering the data for the report the teachers become interested in the individual cases of the children to an extent which is usually not equaled when they simply report the ages. The great weakness of this method is that it only takes into account the status of the children in their present grades and does not concern itself with the number of times they repeated the work of lower grades. Because of this defect it gives deceptively favorable mass results.

TIME IN SCHOOL, OR THE PROGRESS STANDARD.

The methods so far discussed for determining the extent and degree of retardation in city school systems are all based on different combinations of data, giving the grades and ages of the children, or the time that they have been in their present grades. The method which gives the best and fullest information is one that combines all three of these criteria and tells where the children are in the school course, how old they are, and how long it has taken them to reach their present grades. This method can be used only where the school records include individual cards, giving the school history of each pupil, or where such individual history can be gathered by means of a special investigation.

The following table presents the results of tabulating the individual records of 980 pupils in the fifth grade in 19 New York City schools at the close of the school year 1907–8:

Age and time in school, fifth grade, 19 schools in New York City, 1908.

Years in school.	Ages.										Total.
	9	10	11	12	13	14	15	16	17	18	
2	.....	1	.....	1	1	.....	.....	.....	.....	.....	3
3	1	8	7	9	1	.....	1	.....	.....	.....	27
4	33	62	22	13	5	.....	1	.....	.....	.....	136
5	9	100	192	81	36	16	.....	.....	.....	.....	434
6	.....	12	68	111	42	9	6	.....	.....	.....	248
7	.....	.....	9	27	37	19	3	.....	.....	.....	95
8	.....	.....	.....	3	12	13	2	.....	.....	.....	30
9	.....	.....	.....	.....	.....	4	1	.....	.....	1	6
10	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Total	43	183	298	245	134	62	14	.....	.....	1	980

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By referring to the top row of figures, it will be seen that these children varied in age from 9 to 18 years, and reference to the first column shows that they had been in school from 2 to 10 years. There is a heavy vertical line, on the left of which are the figures representing children 11 years old or less, and on the right, those representing children 12 years old or older. As 11 years is the limit of normal age for children in the fifth grade, this leaves on the left-hand side of the line the figures representing all of the normal-age children, and on the right those representing children who are over age. Children who have been in school 5 years or less and are in the fifth grade have made normal or rapid progress. Those who have been in school more than 5 years have made slow progress.

These two groups are divided by the heavy horizontal line. This gives us a table representing the status of all of the fifth-grade children with respect to their ages and their school progress. All of those represented by figures on the right-hand side of the line are above normal age, and all of those represented by figures below the horizontal line have made slow progress. This arrangement enables us to classify our children in four groups, as follows:

Upper left-hand section: 435 children who are of normal age and have made normal progress.

Lower left-hand section: 89 children who are of normal age and have made slow progress.

Upper right-hand section: 165 children who are above normal age and have made normal progress.

Lower right-hand section: 291 children who are over age and have made slow progress.

These data enable the school superintendents to classify the children of the grade in the four groups, according to their educational needs, and to find out which of them are over age because they entered school late, and which ones are over age because they have made slow progress. The children represented by the figures in the upper left-hand section constitute 44 per cent of the entire grade membership. They are of normal age, and they have been making normal progress. They are not subjects for specialized attention.

The 89 children represented by the figures in the lower left-hand section constitute 9 per cent of the grade membership. They are of normal age, and have made slow progress; and the only reason that they are not numbered among the over-age children is that they were very young when they entered school. Their cases are not yet serious, but they should be carefully watched.

The 165 children represented by the figures in the upper right-hand section are above the normal age, and have made normal progress. That is to say, they entered school late, and the school is not to blame

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for their being over age at present. Nevertheless, as they are relatively mature, they should be given special opportunities to make rapid progress. They constitute about 17 per cent of total membership.

The 291 children represented by the figures in the lower right-hand section constitute 30 per cent of the grade membership, and are both over age and have made slow progress. These are the serious cases, and they should be given the most careful consideration. They are genuinely backward, and are not only too old for their grades but are chronic repeaters.

The foregoing analysis shows with sufficient clearness the advantages of this form of table. It gives all of the information furnished by the other methods, and much in addition. The disadvantages connected with its use are, first, that the data can not be gathered until the individual school history of each child is secured, and, second, a separate table has to be made for each grade. It is impossible to construct one showing conditions in the entire school system. Moreover, where semiannual promotions are in force, such a table should be extended so as to show both ages and time in school by half years.

A METHOD FOR DISCOVERING THE CAUSES OF RETARDATION.

Children who make slow progress do so because they fail of pro motion. Hence the most direct way to discover the causes of retardation is to find out the salient differences between the promoted and the nonpromoted children.

The easiest way to do this is to record significant facts regarding all of the pupils at the close of the school term or year, and tabulate them for the promoted and the nonpromoted pupils, so as to discover in what respects conditions in the first group differ from those in the second group. This avoids the common error which results from gathering data concerning solely the pupils who fail, and then having no way to determine how these pupils differ from the successful ones. A blank form, which has been successfully used for gathering significant data for promoted and nonpromoted pupils, is the following:

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Records of promoted and nonpromoted pupils.

	Number among children promoted at end of year.	Number among children not promoted.
Boys	——	——
Girls	——	——
Average age	——	——
Average days attended	——	——
From non-English-speaking families	——	——
Foreign born	——	——
Suffering from malnutrition	——	——
Mentally defective	——	——
Defective vision	——	——
Defective hearing	——	——
Adenoids	——	——
Other throat troubles	——	——
Enlarged glands	——	——
Defective teeth	——	——
Other defects	——	——
Grade——. School——. Teacher——. Date——.		

In a recent investigation the use of this blank showed that nonpromotions were much more frequent among boys than among girls, and that attendance was much poorer among the nonpromoted than among the promoted children The average age of the nonpromoted children was greater than that of the promoted ones, more of them came from non-English-speaking families, and more of them were foreign born. The nonpromoted children showed much higher percentages of physical defectiveness.

The use of this blank enables the superintendent or principal to rate the different retarding influences in the order of their importance, and as a consequence to take measures looking toward their elimination.

SUMMARY.

The age and grade table tells how many and what proportion of the pupils are too old for the grades they are in. It furnishes the quickest and easiest means for discovering conditions throughout a school system.

The method of locating the 13-year-old children shows what the school has accomplished for the children up to the limit of its legal control over them. It furnishes an indicator of the results of retardation, but does not give a survey of the whole system. It is the most easily applied of all the measures of retardation.

The enumeration of the repeaters in each grade shows which children need special attention at any time. It is easily done, but it does not show which children are chronically backward and which are temporarily or accidentally so.

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The age and time-in-school table furnishes the most complete and useful information about the children. It shows which children are over age because they have made slow progress and which ones are over age because they entered school late. It furnishes the best method for discovering the significant facts about the school progress of the children, but it can only be used where individual school histories can be obtained.

The causes of retardation can best be discovered through investigating the differences between the promoted and the nonpromoted pupils.

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CHAPTER V.

PROVISION FOR EXCEPTIONAL CHILDREN IN CITY SCHOOL SYSTEMS.

Under date of March 15, 1911, an inquiry was addressed to the superintendents of city schools throughout the United States, asking them for information as to what was being done in their systems to provide for the needs of exceptional children. The inquiry form used was as follows:

WASHINGTON, D. C., *March 29, 1911.*

DEAR SIR: Will you kindly answer the following questions and return this sheet to me at once for the use of a committee which is preparing for the Bureau of Education a bulletin on *Provision for Exceptional Children in the Public Schools?*

Have special classes been formed in your city under the following or other names (answer yes or no)?

1. Delinquent.....
2. Backward.....
3. Defective.....
4. Blind or semiblind.....
5. Deaf or semideaf.....
6. Open air.....
7. For foreigners—day schools.....
8. For foreigners—evening schools.....
9. Vocational.....
10. "Continuation".....
11. Parental or residential.....
12. Epileptic.....
13 For late-entering children.....
14. For gifted children.....

Under other names:

15. .....
16. .....
17. .....
18. .....

Have you any provision for:

1. Medical inspection for contagious and infectious diseases.....
2. Physical examination for defects.....
3. Dental clinics.....

Any reports or documents you may have and any rules, regulations, or by-laws adopted by your board of education with reference to such special features of your school work will be greatly appreciated.

Yours, respectfully, ——— ———,
Commissioner.

Name, ——— ———.
City, ——— ———.

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The number of these questionnaires sent out was 1,285, and the list to which they were sent includes all of the municipal school systems regularly organized under superintendents. Eight hundred and ninety-eight replies were received, divided among the five State divisions as follows:

North Atlantic	370
South Atlantic	60
South Central	90
North Central	322
Western	56
Total	898

For the purpose of interpreting the results, the answers have been divided into four groups, and the information treated as referring to provision made for children who are exceptional (1) morally, (2) mentally, (3) physically, and (4) environmentally. The different kinds of special provision offered in city school systems have been roughly grouped under these four headings as follows:

I. Morally exceptional:
- (*a*) Classes for delinquent, incorrigible, and refractory pupils.
- (*b*) Parental and residential schools.

II. Mentally exceptional:
- (*a*) Classes for backward children, including help through special teachers, etc.
- (*b*) Classes for mentally defective children, epileptics, etc.
- (*c*) Classes for exceptionally gifted children.

III. Physically exceptional:
- (*a*) Classes for blind or semiblind.
- (*b*) Classes for deaf or semideaf.
- (*c*) Classes for dumb.
- (*d*) Classes for stammerers, stutterers, and lispers.
- (*e*) Open-air classes for children physically subnormal.
- (*f*) Classes for crippled children.

IV. Environmentally exceptional:
- (*a*) Classes for non-English-speaking children, in either day or evening schools.
- (*b*) Classes for children who enter late.
- (*c*) Classes for children from subnormal homes.

PROVISION FOR THE MORALLY EXCEPTIONAL.

According to the returns, 152 cities are making special provision for morally exceptional children. The following table shows the distribution of these cities by State divisions, and by the kind of provision made. The identity of these cities, as well as that of those from which the data of all the following text tables have been secured, may be learned by consulting the tabular presentation of the appendix, which gives by States and individual cities the information secured through the questionnaire.

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Cities making provision for morally exceptional children.

Division.	Cities having classes for the delinquent, incorrigible, and refractory.	Cities having parental and residential schools.	Total.
North Atlantic	59	10	69
South Atlantic	7	1	8
South Central	10	1	11
North Central	39	5	44
Western	13	7	20
Total	128	24	152

Comparison of these figures with those giving the total number of cities in each division furnishing the data shows that 17 per cent of the school systems make provision for morally exceptional children. There is noteworthy variation in the percentages for the different divisions, as the following figures show:

Percentage of cities making provision for morally exceptional children.

North Atlantic	19
South Atlantic	13
South Central	12
North Central	14
Western	36
United States	17

PROVISION FOR THE MENTALLY EXCEPTIONAL.

The school systems making provision for the mentally exceptional number 373, or 42 per cent of the total number. The following table shows how these cities are distributed by divisions, and the different sorts of provision made:

Cities making provision for the mentally exceptional.

Division.	Having classes for mentally defective.	Having classes for backward children.	Having classes for exceptionally gifted.	Total.
North Atlantic	44	97	22	163
South Atlantic	3	15	2	20
South Central	7	18	3	28
North Central	32	70	19	121
Western	13	20	8	41
Total	99	220	54	373

In this table the figures giving the number of cities having classes for the mentally defective include the cases in which the superintendents reported classes for epileptics. In a similar way the figures for classes for backward children include the cases in which the reports state that special teachers are employed to assist the slow pupils.

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The question as to provision for gifted children has been given a particularly liberal interpretation by the superintendents of the 54 cities reporting such classes. In most cases this means merely that in these cities plans of flexible grading are in force which permit the unusually able pupil to make more than normally rapid progress through the grades.

The percentage figures showing the proportion of cities in each division making provision for the mentally exceptional children show, as in the former case, remarkable variability, and again the States of the Western division make the best record.

Percentage of cities making provision for the mentally exceptional.

Division.	Having classes for mentally defective.	Having classes for backward children.	Having classes for exceptionally gifted.	Total.
North Atlantic	12	26	6	44
South Atlantic	5	25	3	33
South Central	8	20	3	31
North Central	10	22	6	38
Western	23	36	14	73
United States	11	25	6	42

PROVISION FOR THE PHYSICALLY EXCEPTIONAL.

The cities making provision for the physically exceptional number 91, and the kinds of special classes maintained fall into six groups. In the following table the caption "Blind" includes classes for semiblind, "Deaf" includes classes for semideaf, and "Stammerers" includes classes for stutterers and lispers.

Cities making provision for the physically exceptional.

Division.	Classes for blind.	Classes for deaf.	Classes for dumb.	Classes for stammerers.	Open-air classes.	Classes for crippled.	Total.
North Atlantic	4	6	.....	1	12	1	24
South Atlantic	.....	.....	.....	.....	1	.....	1
South Central	.....	.....	.....	.....	1	.....	1
North Central	9	34	.....	1	9	2	55
Western	1	6	1	.....	2	.....	10
Total	14	46	1	2	25	3	91

One noteworthy feature of this showing is the large number of cities in the North Central division having classes for the deaf and the comparatively small numbers in the other divisions. Another is the small number of cities in the Southern divisions having special provision for the physically exceptional.

The percentage figures show that in this type of provision, as in the preceding ones, the Western division makes the best showing. Six per cent of the cities in the North Atlantic group have provision for the physically exceptional. In the two southern groups the numbers are too low to make it possible to compute the percentages. The

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figures for the North Central and Western divisions are 17 and 18 per cent, respectively.

These figures giving the facts as to the different numbers of cities making provision for the needs of the physically exceptional do not include the regular work of medical inspection. Figures concerning this were gathered, however, and with the following results:

Cities having systems of medical inspection.

Division.	Having medical inspection.	Having examination for physical defects.	Having dental clinics.
North Atlantic	239	231	54
South Atlantic	28	22	9
South Central	48	31	6
North Central	174	130	44
Western	37	30	12
Total	526	444	125

PROVISION FOR THE ENVIRONMENTALLY EXCEPTIONAL.

The number of cities making provision for the pupils who are environmentally exceptional is 346, but this figure is somewhat misleading for the reason that it includes the data for cities having instruction for non-English-speaking pupils in evening schools as well as in day schools. The facts by divisions are as follows:

Cities making provision for the environmentally exceptional.

Division.	Non-English speaking (day).	Non-English speaking (evening).	Late entering.	Exceptional.	Total.
North Atlantic	41	122	26	.....	189
South Atlantic	1	4	6	1	12
South Central	4	8	7	.....	19
North Central	16	53	27	.....	96
Western	11	10	9	.....	30
Total	73	197	75	1	346

Despite the fact that the cities of the Eastern States having large foreign populations have in many cases provision for the teaching of non-English-speaking pupils, the Western division makes the best showing in this as in all other comparisons. The comparative percentage figures are as follows:

Percentage of cities making provision for the environmentally exceptional.

North Atlantic	51
South Atlantic	20
South Central	21
North Central	29
Western	54
United States	39

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CHAPTER VI.

GRADING AND PROMOTION

WITH SPECIAL REFERENCE TO THE NEEDS OF EXCEPTIONAL CHILDREN.

The administration of graded schools has long been based on the plan that at stated intervals, usually of one year, a reclassification of pupils takes place, the more proficient ones being promoted into the next higher grade, and those who have failed to cover the required ground staying where they are. In extreme cases, very backward pupils are "demoted" into the grade below.

The most obvious defect of this plan, which is still in force in many localities, is that the child who fails in one or more subjects, but who has been successful in the rest, is compelled to do again the work of the grade, and to repeat work which he has already successfully completed, as well as that in which he has failed.

The first step toward mitigating the bad effects of this process lies in the system of half-yearly promotions by which the pupil who fails has only to repeat half a year's work, instead of that of an entire year. There is little doubt as to the desirability of this plan. It is in successful operation in scores of cities, and is rapidly spreading.

Many other plans have been designed to introduce flexibility of grading. Most of these are modifications of a plan developed more than 30 years ago by Dr. W. T. Harris, at that time superintendent of schools of St. Louis. The object of this plan was to make such a modification in the promotion system as to retain the machinery of organizations by grades and regular promotions, and at the same time provide for the needs of the exceptionally bright and the exceptionally slow child.

The most thorough and extensive study of the various grading and promotion plans that has appeared in print is that presented by the Brooklyn Teachers' Association in their report printed in the fall of 1910. This investigation is based on the returns from a questionnaire that was filled in by more than a thousand school superintendents, principals, normal school pupils, and so on.

The investigation was conducted by a committee on school organization under the joint chairmanship of Messrs. Van Evrie Kilpatrick and Charles S. Hartwell. As this report constitutes by far the most general and authoritative statement of the opinions and experience of American educators concerning different grading and promotion plans, it is used as the basis for the present summary.

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Well-recognized plans for securing flexibility in grading are at least a score in number. Most of them are known by the names of the places in which they have been used. For example, the Cambridge plan is one that has been used for some 20 years in Cambridge, Mass., and the Batavia plan has long been followed in Batavia, N. Y. In many other instances, while plans are known by the names of towns or cities, they have in point of fact never been in universal use in those localities.

Nearly all of these numerous plans fall into one or the other of two groups. In the first group are devices for securing, so far as possible, uniform progress through the grades on the part of all pupils. These plans depend on giving special instruction to the dull pupils in order that they may be enabled to keep up, or in giving extra work to the bright pupils in order that they may cover more than the normal amount of work outlined for each grade. These two modifications

One-half year progress.

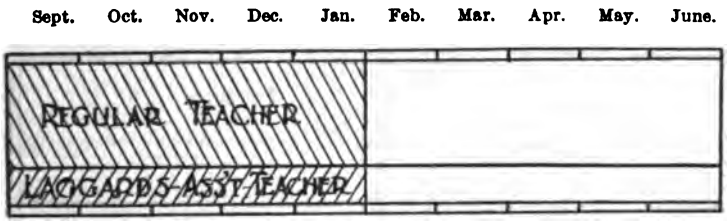

FIG. 1.—BATAVIA PLAN.—The diagram illustrates the equal progress of all the children in a given grade during one term. The coaching of the slow pupils by the assistant teacher makes this equality of progress possible.

of the plan for securing uniform progress are typically represented by the Batavia and the North Denver plans.

In the second group are grading and promotion plans which are based on the idea of permitting children of differing abilities to complete the work of the grades in differing lengths of time. The Cambridge and Chicago, or "large city" plans are typical of those which provide for differing rates of progress among different classes, while the Pueblo plan is based on the idea of letting each individual child go forward according to his particular abilities and without reference to those of the other children.

THE BATAVIA PLAN.

The Batavia plan has for many years been used in the public schools of Batavia, N. Y. In its inception it was a device resorted to in order to make tolerable the use of very large schoolrooms provided through the faulty design of one of the school buildings.

The chief characteristics of the plan are large classes with additional teachers to give individual instruction to the backward pupils

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in each room. The progress of all the pupils is uniform, this uniformity being secured through the individual teaching of the slow pupils.

The principal objection to the plan is the one inherent in all attempts to teach classes of very large size. As a temporary relief for conditions brought about by overcrowded schoolrooms, the plan is probably good, but it is not to be commended for permanent use under normal conditions. Among the reports received by the Brooklyn Teachers' Association from 973 educators, only 138 had tried the Batavia plan, and of these only 62 per cent favored it after trial.

THE NORTH DENVER PLAN.

The salient characteristic of the Batavia plan is that under it the best efforts of the teaching force are devoted to assisting the least hopeful members of the class. The interests of the ablest are sac-

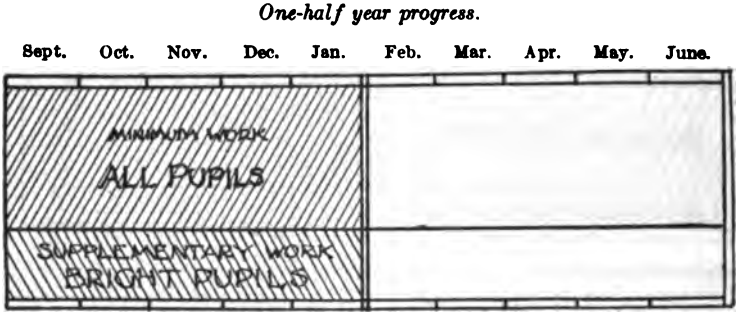

FIG. 2.—NORTH DENVER PLAN.—Diagram illustrates how equality of progress is secured through giving the bright pupils supplementary work, instead of giving the laggard pupils extra teaching.

rificed to those of the dullest. In sharp contrast to this is the North Denver plan. The object of the plan is to provide an opportunity for the brighter children to do more extended, more intensive, and more individual work than the other members of the class. This extra work is done by them during free periods, while the other children are reciting. Home work is minimized and the brighter pupils are trained to depend less and less on their teachers and given an opportunity to push ahead as rapidly as their capacities will permit.

Among the 973 educators who contributed to the study of the Brooklyn Teachers' Association, 169 had tried the North Denver plan, and of these 94 per cent favored it after trial. The chief virtue of the plan is that it places its greatest emphasis on assisting the brightest pupils. Its object is predominantly constructive rather than predominantly remedial.

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THE CAMBRIDGE PLAN.

The plan long in use in the schools of Cambridge, Mass., is the best known of the different devices and systems for securing an opportunity for children of differing abilities to progress through the grades at different rates of speed. Its aim is to classify students according to ability and then to have the different classes or divisions go forward at rates appropriate to their varying abilities. Moreover, it brings the pupils of the different classes together at stated intervals and provides for reclassification. The mechanism of this plan is shown in the diagram, which illustrates how provision is made whereby a pupil may complete the work of the six grammar grades in four, five, or six years and is given opportunity to change from the slow to the fast division or vice versa.

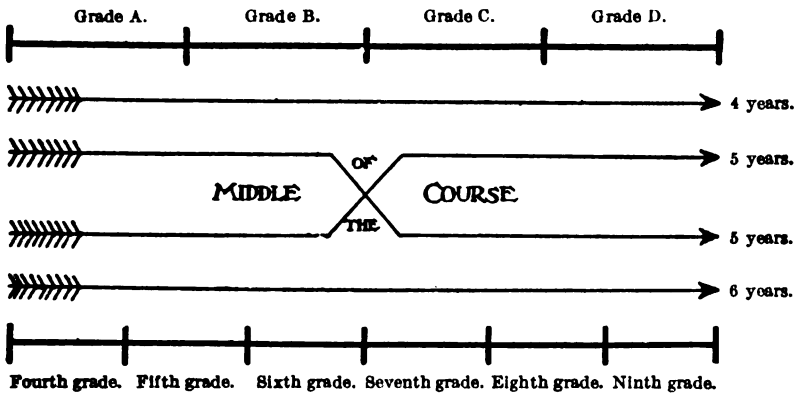

FIG. 3.—CAMBRIDGE PLAN.

Seventy-five of the 973 educators had tried the Cambridge plan, and 92 per cent of them favored it after trial.

LARGE-SCHOOL PLAN.

In New York, Chicago, and other cities a plan commonly known as the "large-school plan" has been in use for 15 years or more. The large number of pupils makes it possible to have three or more classes in each grade and the plan places the brightest ones in one class, the medium ones in other classes, and the slow pupils in still other classes. Each class completes the grade work as rapidly as possible so that the bright division may be promoted a month or two before the slow one. The chief virtue of this plan is that it makes possible close grading and the most just placing of each individual pupil. Its chief defect is that it is applicable only to large schools. Of the 973 educators above referred to, 111 had tried the "Chicago plan," which is virtually the large-school plan, and 93 per cent of them favored it after trial.

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THE PUEBLO PLAN.

The most individualistic plan of grading and promotion that has ever been advanced is known as the "Pueblo plan." This plan provides that each pupil shall advance as rapidly as he can accomplish

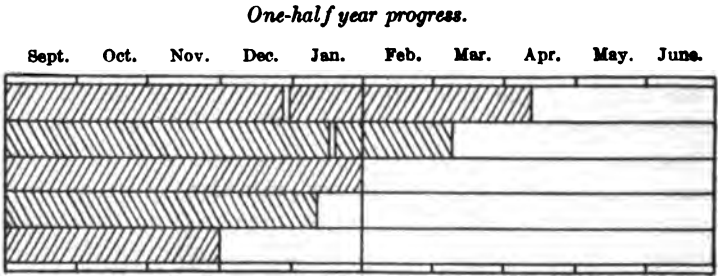

FIG. 4.—LARGE SCHOOL PLAN.—During the half year to which the diagram refers the brightest pupils (in the division represented at the top of the diagram) have completed the work of a term and a half. Each of the other divisions has covered less ground, the last one, at the bottom, having done little more than half a term's work.

his work. The individual and not the class is the unit in study, recitation, progress, and graduation. If groups are formed for recitation they are temporary. The teacher is a director of work, going from pupil to pupil. There is no home study. Among the 973 educators questioned, 207 had tried the Pueblo plan and 96 per cent

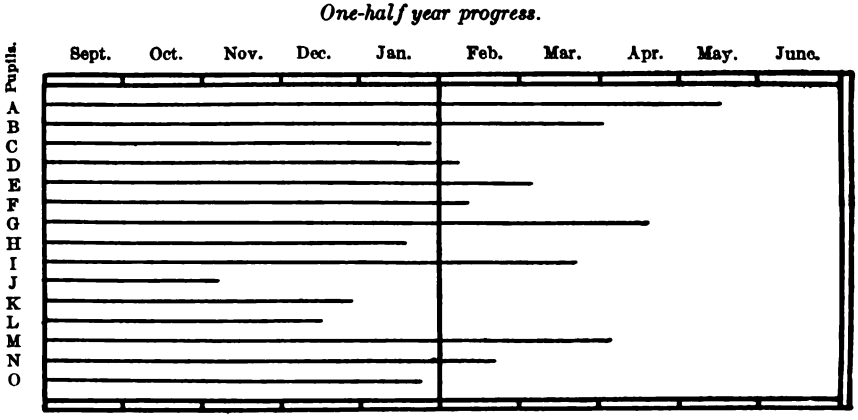

FIG. 5.—PUEBLO PLAN.—Each horizontal line represents the progress of an individual pupil, and their varying lengths show how pupil A has covered almost a year's work during the half year, while the slowest pupil (J) has done only about a quarter of a year's work.

favored it after trial. The chief objection against it seems to be that it is so intensely individualistic in nature that it can only be successfully carried out when teachers of unusual ability are available and they remain in their positions for considerable periods of time.

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SUMMARY.

The first unquestionably valid conclusion which comes from a study of the various plans designed to secure flexible grading and promotion is that the "lock-step" system is prejudicial to the interests of the pupils. In this method of mass promotion, the individual is lost. Under it pupils are not so classified that the work given may be adapted to their individual abilities. It places the emphasis on the weak instead of on the strong, and so makes it difficult to shorten the elementary school period for the more able pupils.

There is no simple, ready-made plan for avoiding the evils of the lock-step system, and securing for each child that full opportunity to advance according to his individual ability that is the goal of the ideal school system. Every plan must be modified to meet local conditions. In many cities several modifications, and even several different plans, are needed.

There is general consensus of opinion that the object of a grading and promotion plan should be to bring together children of similar abilities and like capacity for carrying the work, so that each group shall be as nearly as possible homogeneous. Frequent opportunity should be provided for reclassification, so as to allow for changes in the ability of the child to carry the work, giving children who have been making slow progress opportunity to go forward rapidly, and, where necessary, those that have been making rapid progress opportunity to go forward more slowly.

The emphasis of the system, and the strength and efforts of the teachers, should be primarily devoted to assisting the bright pupils, rather than directed toward forcing forward the dull ones.

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CHAPTER VII.

DESCRIPTIONS OF WORK DONE FOR EXCEPTIONAL CHILDREN IN AMERICAN SCHOOL SYSTEMS.

(Extracts and Summaries from Letters and Reports Sent by Superintendents.)

BALTIMORE, MD.

Classes for epileptics—Disciplinary classes—Parental schools.—Two special classes are maintained for educable epileptics. They attend school during the forenoon only. Car tickets are furnished for those living at a distance from the school. Twenty-four ungraded classes, chiefly for disciplinary cases, are maintained—one for each group of schools presided over by a single principal. These two forms of special classes are provided primarily for the relief of the regular classes. There is also a parental school for habitual truants.

Flexible grading.—The plan of grading in operation in the larger schools includes the grouping of children of the various grades into fast, medium, and slow classes. The fast classes are relatively large. The medium and slow classes are graded down in numbers as well as in ability in order that the teaching may be more and more individual as the slowest divisions are reached. The slowest are treated as special classes with the curriculum modified to fit individual needs.

Classes for gifted.—On completing the work of the sixth grade especially capable children, whose parents desire to have them do so, are allowed to take up extra studies of high-school grade, earning thereby credits which count toward the high-school diploma. Such children are able as a rule to complete the work of the seventh and eighth grades and the four high-school grades in five years.

Individual assistance.—Individual assistance is given to children who are backward in one or more studies by senior students in the training schools, who perform this service as a part of their course in the practice of teaching. They render valuable service, for which they receive a small compensation, and are benefited by the corrective effect of this individual work upon their natural inclination toward teaching the lesson rather than the child.

Dental clinic.—A dental clinic has been established in the parental school. The Society for Oral Hygiene has provided the equipment and the volunteer service. All pupils of the school have had their mouths examined and their teeth repaired. New pupils are treated

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as soon as possible after they are committed to the school. Thus far the school board has been called upon only to provide a suitable room.

BAYONNE, N. J.

Disciplinary classes.—A special class is maintained for refractory boys. One of the immediate effects sought in the organization of this class was to relieve the regular classes of the presence of these pupils. Another was to cause a large number of pupils who were giving trouble to do better. Transfers are made in such a way that a boy is given a second trial in a regular class before entering the special class. Thus it is necessary to send only a small per cent of troublesome pupils into the class.

BOSTON, MASS.

Classes for subnormal.—Several special classes for subnormal children have been maintained. A special medical expert examines the children who are recommended by the principals for admission to these classes. Only improvable cases are accepted. Specially trained teachers are employed in these classes, and the number of pupils is limited in each class to 15. The course of study is exceedingly flexible, and is especially full of motor-training elements. Many pupils have been returned to the regular grades. Many others who have made small progress in the acquiring of knowledge have, however, established moral habits and acquired physical control sufficient to make them eventually self-supporting members of the community.

Disciplinary classes.—Two disciplinary classes have been established under charge of teachers especially qualified for this work. No more than 20 pupils are assigned to each teacher. With scarcely an exception, pupils whose school work and behavior under ordinary conditions have been valueless to themselves and detrimental to their classmates have become, in the disciplinary classes, interested in their work, and therefore obedient and punctual.

Ungraded classes.—In each district at least one ungraded class is authorized. In some districts, where a large number of immigrant children are learning to speak English, several such classes are conducted. These classes differ from regular classes primarily only in the fact that a smaller number of pupils are assigned to them (35). The instruction necessarily must be adapted to the conditions in the class, and the course of study is modified to suit these conditions. The purpose is to give special help to those pupils who need it and to return them as soon as possible to the regular grades.

Vacation school.—In the summer high school opportunity is given to secure additional points or to supplement the work of the regular

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school sufficiently to enable the pupil to secure a passing mark. By this means pupils of exceptional ability may be able to shorten their high-school course by a year, and pupils who have failed to pass some part of their work during the year may make it up in the summer and thus graduate in four years instead of five.

Examination for defects.—Thirty-four school nurses are constantly employed in finding and correcting all forms of physical defects. The entire department of school hygiene is giving its attention to improving the health of the children. Every pupil is examined each year by the teachers for defects of eyesight and hearing.

Open-air classes.—In January, 1909, the park commission granted the school committee the use of two rooms and the roof of the refectory building in Franklin Park, and an outdoor class was started there on January 18, 1909. No pupil who has reached a contagious condition is admitted. A careful medical examination of each child is made by an expert every second week.

The schoolhouse commission has been requested to provide some of the new buildings with fresh-air rooms, so arranged that the heat may be shut off and the room filled with fresh outside air and flooded with sunlight. In these rooms pupils who would benefit from more fresh air may be seated with slight additional administrative difficulty and with no additional cost.

To wait until fresh-air rooms in new buildings are supplied in every district would postpone the benefits of fresh-air instruction for many generations. Much can, however, be done under the present conditions. An experiment conducted during the present year by the principal of the Prescott School illustrates the possibilities in any school. "With the advice and assistance of the school physician and the school nurse about 20 children who were thin, pale, anæmic, and repeatedly absent, were seated during pleasant weather in a cozy corner of the school yard, with portable desks, and under the charge of a special assistant. The regular work of the classroom was carried on in this outdoor class. This arrangement relieved the most crowded rooms and worked a most phenomenal change in the condition of the children who are in this fresh-air class."

CALUMET, MICH.

Ungraded classes.—Three "grading rooms" are maintained to take care of pupils who are more advanced in some subjects than in others. Ten or twelve pupils are placed in each room under a strong teacher. Some subnormal pupils are included in these classes.

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CAMBRIDGE, MASS.

Open-air classes.—The open-air school is conducted in a dwelling house, remodeled and equipped for the purpose. The school will accommodate 27 pupils. During the first three months pupils were received on the recommendation of examining physicians of the Anti-Tuberculosis Association. Later, however, the pupils have been admitted on the recommendation of the medical inspectors of the schools and the visiting nurse, and they are returned to their regular classes when their physical improvement, as shown by a careful examination, is such as to lead the inspector and nurse to advise this action. The improvement in the general health of the children as indicated by complexion, appearance of the eyes, increase in strength and activity, has been noticeable. On entering the school each child is provided with a chair bag, a leg blanket, a soapstone foot warmer, a worsted toque, a pair of woolen gloves, and an outside coat. With this equipment the children are comfortable even in the severest weather.

CAMDEN, N. J.

Classes for subnormal.—The first special class established was somewhat experimental in character. Pupils were grouped about square tables the height of which is determined by the size of the children. Parents have consented to medical examination and treatment.

Operations have been performed by the hospital surgeons upon seven children, by a physician in his office upon two others, and four other children have received careful and continued medical treatment. All of those in the school during the last year have been given painstaking medical attention. In several instances, the treatment begun under the advice of the teacher has been continued by the physician at the request of the parents.

There are now four special classes for mentally deficient children, two others for average children whose mental condition is not strong, one distinctly disciplinary class, and two classes of institutional children, many of whom must be regarded as special.

CHICAGO, ILL.

Schools for crippled.—Crippled children are taught in two schools, to which they are transported free. Ten busses are used.

Parental schools.—The average membership in the Chicago Parental School in 1910 was 297, and the average period of detention six and a half months. The minimum term is a little less than four months. The time of parole is determined by the boys' behavior and the quality of work, outside pressure being disregarded. Boys are encouraged to earn their parole as quickly as possible, to guard

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against the danger of being institutionalized and to make room for others on the waiting list.

After a boy has shown his capacity to do good work and to behave himself in the parental school, he is paroled to his home school. After parole he is carefully watched, and if necessary is visited by his teacher or family officer. Reports are sent to the parental school once a month by the principal, showing the boy's deportment and progress in his studies. If these reports continue good for the period of one year, the boy is recommended to the board of education for discharge from the custody of the parental school. During the period of parole, the boy may be returned upon the order of the superintendent of the parental school, for violation of the terms of his parole. About 18 per cent of the boys are returned; the remainder make a record from fair to excellent in their home schools.

Correction of speech defects.—Children with speech defects, stammerers and stutterers, are given special corrective exercises by members of the graduating class of Chicago Teachers' College trained for their particular work in the department of oral expression. Instead of gathering the children together into one building, the young teacher travels from school to school.

Cases of adenoid growths and of other difficulties in the speech organs needing surgical or medical attention are referred to the department of child study.

Psychological clinic.—The department of child study examines all subnormal children, and prescribes the kind of intellectual and physical training which the teacher in the subnormal center shall give the child. A program is furnished the teacher in each case by the department. The promotions to the grades are made after the examination by the department of child study. The membership in each subnormal center is limited to 20.

Classes for deaf.—In the classes for the deaf some attempts were made during the year 1910 to bring the deaf pupils more into contact with the hearing pupils in recitations and exercises than had been the custom. Deaf pupils were taken into classes of hearing pupils for construction work wherever possible. The absence of part of the class of deaf pupils from the special room enabled the teacher to devote her time exclusively to the remainder of the class; while the deaf pupils working with their hands along with the hearing pupils found their infirmity no bar to efficient work. Deaf pupils were sent to rooms of hearing children regularly or occasionally for recitations along with hearing pupils, the lessons having been prepared with the help of the special teacher. They usually returned from such exercises full of enthusiasm and eager to tell of the new things learned. While they gained little and gave to the teacher but little when compared with the hearing children, it was much for them, and they profited by it.

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Instead of the department of child study spending time in making so large a number of examinations as formerly at school buildings—and that without much of the necessary apparatus and appliances—many more remote and widely separated sections of the city were served by appointments to meet the examiners at the offices of the board of education. Furthermore, by getting into direct communication with the parents or guardians who accompany the child to the office, suggestive information can be secured relative to the child's home, personal history, and in general the group of factors which influence unfavorably his progress in school work. All this, when found necessary, is supplemented by the subsequent report of the school nurse or social worker after having visited the home.

FROM "OPEN-AIR CRUSADERS," 1911.[1]

Open-air classes.—In September two rooms were opened in the Graham School to show what natural cold air will do for normal pupils. No selection of individuals was made except that as children entered the school for their first year's work they were given their choice of entering a cold room or a warm one. Of course some pains were taken to inform the parents in advance as to what it was expected the cold air would do. After several weeks of trial in which zero weather was encountered and no bad effects followed, teachers, parents, and pupils, seeing what had been done for those in the two rooms, asked for rooms in the other grades for the same sort of work. The school year closed with seven open-air rooms.

So satisfactory was the work that the school opened in September with 20 cold rooms, merely retaining enough of the warm-air rooms to insure a place in a warm room in every grade for pupils whose parents desired them to have it and also a place for teachers to work in warm air in case some of them feared that work in a cold room might prove too strenuous.

The work in a cold room differs from that in a warm room. The pupils are exercised far more frequently and in the low grades the seats are removed so as to provide floor space for games and dancing. Common wooden chairs or kindergarten chairs take the place of seats, and long tables of simple construction replace the old form of rigid desks. The children sit in the schoolroom clad in the clothing which protects them on the way to school. They keep all that clothing on, if they choose, or lay aside their caps, mittens, overshoes, and coats if they feel uncomfortable with them on. During the year no money was paid out for any sort of clothing to protect

[1] *Open-Air Crusaders.*—Sherman C. Kingsley, 1911. Published by United Charities of Chicago. For free distribution.

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the children from cold, as it was found that whatever clothing would bring them safely to school was more than enough for protection in the school, where games were frequent.

CINCINNATI, OHIO.

There are day classes for the deaf, for the blind, for foreigners, for the mentally defective, and for the retarded. The instruction of the blind is so carried on that the blind children have considerable association with other children. The mentally defective children are brought together in a convenient center, so that there can be some classification and much attention to manual work. Those distant from the center are conveyed to the school at the expense of the board.

School for backward.—A special school is maintained for slow children more than three years behind normal children of their age, but not mentally defective. In organizing this school a careful physical and mental examination was made of the children and their homes were visited. Such as needed medical attention received it. Glasses were provided and operations performed for adenoids. A truant officer reports each morning to look up absentees. The following advantages are claimed: All the causes usually assigned for backwardness are found to hold good here, but especially it has been found that the children had gotten out of harmony with school work and most of them were in school because they had been coerced by parents or school officers. On the street and in their games they were able to play their part, but in the schoolroom they had been grouped with children who, though much younger, surpassed them.

Now that they have been grouped with those of their own age, and work is assigned them that interests them, their attitude toward school has changed. They are classified in groups that average from 28 to 30 per teacher; the course of study has been modified to meet their special needs; they are given a great variety of handicraft and a half hour of physical training a day in the gymnasium. Under these conditions the children have become tractable and regular in attendance, and the progress they have made is encouraging to them and to their teachers. It has been demonstrated that under favorable conditions most over-age children not mentally defective can do creditable school work and become serviceable citizens

The great advantage of collecting a large number of special pupils into one school over the old method of establishing an ungraded room in each school is apparent. Classification of groups of children with similar needs enables teachers to handle twice as many children with greater ease; the enthusiasm that comes from numbers is obtained; the teachers themselves have companionship and an opportunity to

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interchange ideas and get counsel; and, above all, manual and physical training can be given in a systematic way that will lead to usefulness.

These teachers are paid only $50 more than grade teachers. There is an advantage in this, for those who do not feel a genuine interest in such work will not be tempted to go into it because of money consideration. When teachers of special aptitude go into special work, they will not voluntarily leave it. There seems to be a fascination about it; every child is a problem; there is something distinctly interesting each day and hour; there is a continual call for sympathy, energy, skill, and tact; there is a feeling of unity and harmony and mutual helpfulness in the teaching corps; and, finally, there is the sense of mastery and the exultation of victory over the unusual. This seems to apply to the teachers in all types of schools for special children.

Special school for boys.—Pupils are sent to this school by the juvenile court or by the superintendent. It includes boys who are willfully and persistently absent from school and those whose conduct, while not criminal, is not amenable to ordinary treatment. The school is the last resort in school discipline. To a decided extent it has removed the necessity for corporal punishment. The number of cases of corporal punishment now is not one-half what it was five years ago. It is now restricted by stringent rules and can be administered only in presence of a third person.

The superintendent commits boys only to the day school. If this proves insufficient to break up truancy, the juvenile court commits to the detention department, where the pupil is kept at night, attending the school (in the same building) by day. Of those who were removed to other institutions only three were for truancy; that is, the school failed in only three cases. Almost all who have remained under its influence for some time have completely changed their ideas and their attitude toward organized authority. Most of them have gone out and lived up to their expressed intention to "make good."

Sixty per cent of those in attendance have been committed for truancy, 40 per cent for incorrigibility and other causes. About 60 per cent have been committed by the superintendent of schools and 40 per cent by the juvenile court.

All are given one hour in the shop, one hour in the gymnasium, and three hours in the schoolroom where emphasis is given to the commercial side of the essential branches and to drawing and writing. Most of the work is individual.

The discipline is so free as to create some criticism. There is a spirit of good will, however, that could not be obtained by a spying, cruel system of government. The teachers insist upon gentlemanly

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behavior and try to secure it from properly cultivated motives rather than from forms and rules. The school is very popular with the boys who do not want to be sent back to their own schools. Parents frequently report that the boys behave much better and show more willingness to help. The purpose of the school is not punitive; it is to develop in the boys the power of self-government and a desire for self-control.

CLEVELAND, OHIO.

Ungraded classes.—Whenever a child, because of low mentality, bad home influence, nervousness, physical defects, or any other cause, falls behind, he is left with his regular grade and sent to the school for backward children in the study or studies in which he may need special help. These schoolrooms for backward children are not complete in themselves, but rooms to which those needing it are sent for special assistance.

Flexible grading.—Where conditions are favorable, schools are arranged into slow and fast grades. The differences in children are great, and to have the children of widely varying capacities in the same class is to the disadvantage of all, and especially to the disadvantage of the less capable. This is true even when the teacher seeks to give special attention to the slower pupils, for the stronger will invariably assume the leadership, and this tends to restrain and suppress the weaker. To organize schools where the conditions are favorable into slow and fast grades is then merely to place children of relatively equal capacity together. To equalize opportunities, 45 children are placed in the fast, and only 35 are assigned the slow grade.

The advantages of this plan for the strong children are: Instruction can be better adapted to their capacities; a broader range of facts can be considered, and a wider range given to the application of principles; instruction can be made more thorough and fundamental. On the other hand, the less favored children can be given work better suited to their abilities; the advance is slower and more carefully planned; there is greater opportunity to develop individuality and leadership, and to bring out whatever ability and latent capacity these children may have.

This plan or organization thus permits each to work according to his capacity, and while it adds to the strong, by making the slower grade somewhat smaller, it permits not only of a better adjustment of work to the less favored, but also of a greater amount of personal attention, and can not help being a factor in holding many a slow child in school and up to grade.

Vacation schools.—Vacation schools, open to all children of grammar and high school grades who have failed of promotion, are maintained for eight weeks in the summer. Responsibility for promotion of the pupil after having done this work is vested in the vacation teachers.

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School for backward.—A new 20-room building in the center of a very congested district has been set apart for retarded children. There are 800 children in this school retarded one, two, three, or more years. It is planned to simplify the course of study and to give the work of this school a strong individual bias, to the end that part of these retarded children may make up certain of the time lost and be restored to their proper grade, and that the others may be advanced along lines suited to their abilities and thereby secure more of an education than would otherwise be possible to such children.

DENVER, COLO.

School for backward.—Two buildings have been set apart to which are sent children who are three years or more behind their grades. The demand is in excess of the capacity of these two buildings. The pupils enrolled are studied as individuals and every effort made to ascertain why time has been lost and how the difficulty may be overcome in each case. Other centers for retarded children are to be provided.

DETROIT, MICH.

Classes for deaf.—Forty-nine pupils were registered in the school for the deaf in 1909. A number of semideaf children were transferred to the deaf school at so early an age that much may be done to retain and develop speech.

In January, 1908, three pupils completed the eighth grade and were graduated. Two are attending the Central High School, where they follow the course of study prescribed for their hearing companions without special help. The third pupil, because of adverse circumstances, was compelled to assist in the support of the home. She is employed in the mail-order department of a large dry-goods store in this city. In January, 1909, a former graduate of the school for the deaf completed a high-school course. The success of these pupils has been a great incentive to the pupils of the grammar grades who are now planning for a high-school education. Detroit maintains a normal training department in connection with the school for the deaf.

FITCHBURG, MASS.

Special teacher for backward.—After several years' experience with the type of ungraded class in which children backward in one or more branches took all their work in the ungraded rooms, a change was made to a plan by which the child engages in general exercises in one of the regular grades, and comes to the special teacher about 20 minutes each day for special help in the troublesome study. This teacher has no other children to watch, no other work to supervise. The

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special weakness of each child is considered, and the work planned accordingly. At least twice the number of children reached by the former plan can be reached by this plan. Fifty different children a day has been the highest number, 40 to 45 being the usual number.

Supplementary classes.—Pupils of the highest grammar grades, commonly known as "left overs," many of them having been "left over" in previous years, are allowed to enter the high schools, forming a class by themselves, a single teacher being placed in charge of the whole work of the class, who lays out work for the pupils according to their individual capabilities. These pupils are able to pursue some of the studies of the high-school grade, although advancing less rapidly than the members of the other classes.

Provision is made in like manner for pupils from the various classes next below the highest grammar grade, these pupils standing in relation to the highest grammar grades in a position corresponding to that which those "left overs" from the highest grammar grades stood in relation to the high school. These pupils from the various grammar schools are united in one class and made a part of the highest grade in a way similar to that under which the special high-school class is organized and managed. Some members of the special high-school classes are able to do the work prescribed for the regular classes and some admitted to the supplementary grammar grade class make such progress as to gain admission to the high school with the regular class.

HARTFORD, CONN.

Open-air class.—The first outdoor school in Connecticut was opened in a tent on the grounds of the Sigourney School, on January 3, 1910. A floor was laid with a sand cushion beneath it and a wainscoting built about the sides of the tent to about 20 inches, affording protection to the feet of the pupils, all the air in the tent coming in from the upturned sides and not from the damp ground. The arrangement of the tent inside was like that of the regular schoolroom, with desks, blackboards, and other paraphernalia. Two teachers of experience in different grades of work were engaged to care for the school, and were eminently successful.

Through the cooperation of the Society for the Prevention of Tuberculosis, food, warm clothing, and medical examination and inspection were provided.

The children were selected from 13 different schools and from 10 different nationalities and numbered 47 before the season closed. When children had gained sufficiently, or home conditions had materially improved, children were sent home, at first, but later it seemed best to retain them as long as possible, in order to test not only the health-giving scheme of the school but the educational side as well.

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All school children entering were selected from groups selected from schools and examined. They were first weighed, and thereafter tested on the scales weekly and a record kept of their weight at each weighing. Some of the records show remarkable gain, while others show steady upward progress.

The temperature in the tent has registered as low as 16° while the studies were in progress and no one seemed to suffer, protection to the feet being assured by heated soapstones in the sitting bag.

Most of the pupils were below grade in their studies. Under ideal conditions—small numbers, perfectly fresh air, nourishing food, rest, and exercise—they made much progress. One second-grade child who was in the outdoor school less than two months, upon her return to the regular school was put into the fourth grade. There were nine grades in the school. One teacher taught the first five grades; the other took the four remaining grades. When possible the classes were united. The backward pupils were greatly helped by reciting with several classes. Children who were poor in a certain branch were put into two or three classes of that branch. A child who was particularly good in a study was allowed to recite that branch with a higher grade. In every way the children were encouraged and not held back.

The children wanted to work, and to work hard, and wished to keep abreast in their studies with the children of the other schools. While they were unable to work hard in the other schools on account of ill health, they could do so in the outdoor school, where they improved rapidly in health, and where they studied under such favorable conditions.

HOUSTON, TEX.

Ungraded classes.—A special room is set aside for "exceptional pupils." To this room are sent pupils who are not capable of learning in the ordinary class room, and yet who are not so deficient as to need to be committed to a State institution.

Many of them are physically defective. While in this room they have special medical care and attention. It has often happened that as soon as the child has received proper medical treatment he is able to go back into the regular room.

Such subjects as manual training and school gardening are especially emphasized. If a child can do good work in some one subject, as, for instance, reading, but not in others, an effort is made to allow him to progress as rapidly as possible in the subject which he can learn easily, and yet to lay enough stress on the other subjects. In some instances the pupil takes work on one subject with the normal children of a regular grade room, and takes work on another subject in this special class.

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INDIANAPOLIS, IND.

Classes for gifted.—For the particularly able, special classes are formed at the beginning of the seventh grade, in which two years' work is accomplished in a year and a half. The relation between the lower school and the high school is such that strong work in the last year and a half or last two years in the grammar grades secures a half year's credit in the high school. These and other children may by exceptionally strong work in the high schools save another half year.

For children strong in mathematics and language, classes are formed at the beginning of the eighth grade, in which Latin and algebra are taken in addition to the regular work of the grammar school. Time for this work is provided for by diminishing the time for English and arithmetic. Strong work in these classes secures a half year's credit in the high school in Latin and algebra, and other credits may be secured by good work in other subjects to make up about two-thirds of a term's high-school work.

Special teacher for backward.—For children who are slow at their studies and need more help than the regular school-teacher can give, a special teacher is provided in about eight schools in the city where the need is greatest. This teacher helps during the term from 50 to 75 different children. These children are almost exclusively in grades two to five, inclusive.

Ungraded classes.—For children who are are on the border line of the mentally defective, at schools where there is a sufficient number of them to warrant it (in grades two to five, inclusive), a special room is set apart with a special teacher. The teacher's task in these schools is to study carefully the individual, to help where she can to put the child on his school feet, and restore him to the regular schoolroom, if possible. The book work is given so far as the child can follow it, but manual occupations of various kinds are also introduced, and an effort is made to establish habits of self-control, etc.

School for backward.—For the decidedly mentally defective children, two schools have been established on opposite sides of the city. Specially trained teachers have been placed in charge of these schools. Membership is not allowed to exceed 16 pupils each. The work that is commonly pursued by schools of this character is pursued there—manual occupations, habit-forming exercises, and such book work as can be given.

Disciplinary classes.—For confirmed truant and delinquent boys a special school is provided. Here manual training is emphasized, and special standards of discipline are maintained.

Industrial.—In certain districts of the city, in the seventh and eighth grades conducted under the departmental plan of instruction,

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from one-third to one-half of the time for both girls and boys is given to industrial work. The regular book work occupies the balance of the time. The pupils hold as high standard as they ever have held in their book work, although they are giving considerably less time to it. This kind of specialization will be extended from two schools the current year to three schools next year. Several other districts in the city would like to have it introduced as fast as the authorities see their way to doing it.

The expense for this kind of instruction is approximately $6 a pupil more than the exclusively book-work plan.

The general plan of development of this kind of work involves adapting the industrial phases of the work to the life of the community in which the school exists; therefore the lines of activity are different in different schools.

JOPLIN, MO.

Individual assistance.—Teachers of first-grade classes dismiss all pupils less than 7 years of age at 11 and 3 o'clock, and spend the remaining time working with the older pupils. Teachers of second-grade classes dismiss all pupils under 8 years of age at quarter past 11 and quarter past 3, and devote the remaining time to the older pupils. This work with the older pupils is not on the regular lessons, but on back work or such irregular work as will bring up retarded pupils or help others on to the next higher grade. Above the second grade the work with retarded pupils is done mostly by pupil teachers who devote one-third of their time to this work.

Special rooms, superior as to light and ventilation, are set aside for the physically defective. Weaklings are kept in cool rooms and given special exercises conducive to health.

LINCOLN, NEBR.

Classes for gifted.—Provision is made for unusually gifted children by placing them in a special room after the completion of the sixth grade. In this school during two years they complete the work of the elementary school and also the first year of high-school work.

A plan is being worked out whereby the dull and deficient children will receive proper attention.

LOS ANGELES, CAL.

Ungraded classes—Parental schools—Classes for deaf and dumb.—Special classes include the following: Ungraded rooms open to all elementary school children who are at a disadvantage in the grades; special ungraded rooms open to truants and incorrigibles; foreign ungraded rooms for the newly arrived immigrants; a detention house and parental republic at the service of the juvenile court; one trade

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class, giving work in carpentry, sewing, and cooking, the pupils devoting half a day to the study of books and half a day to industrial training; two classes for deaf and dumb, taught by oral method; and one day nursery. This last is housed in a building furnished by the school department and standing on ground furnished by the school department, but in all other respects it is in charge of the Parent-Teacher Association of the city. It takes the babies of poor people and takes care of them during the school day. It is located in a Russian settlement where poverty compels the parents to go out to work. The school law compels the older children to go to school. This would leave the baby at home or else compel an older child to bring the baby to school. Out of necessity has grown the abovementioned day nursery.

LYNN, MASS.

Individual assistance.—In all of the larger graded schools special teachers are employed who work with backward pupils and also with exceptionally capable pupils. There are special classes for foreign children. In these classes are found children of all ages who are just learning the rudiments of English.

MILWAUKEE, WIS.

Classes for the blind.—In each of 3 schools, situated in 3 different sections of the city, a room is set aside for the use of the blind pupils, who come in charge of parents or guides, on the street cars, or otherwise, as their parents arrange. Those who live long distances from the school usually come in charge of a brother or a sister or a little friend of school age, who accompanies the blind child as a regular pupil, and who usually enters the school in which the class for blind children is taught.

The blind children gather first in the room specially provided for them; they then go to the regular schoolrooms, where they remain during the opening exercises of the classes to which they belong. After the opening they return to the special room to study their lessons. At recitation time in any class the blind children who belong to that class go from their special room to the regular class room and there take part in the lesson as the seeing children do. They use the same textbooks, which are printed for them in point letters (American Braille being the point system used), reading or spelling or solving the question in arithmetic in their turn. After the recitation is completed the blind pupils return to the special room and there do their studying under the oversight of the special teacher for the blind. One of these has charge of each of the rooms and acts as helper and special teacher.

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The number of pupils which the teacher of such a group can care for properly is from six to eight, this depending somewhat on the age of the children and on other considerations.

These schools are under the direct management of the board of school directors, according to the provisions of an act passed by the Wisconsin Legislature. This act authorizes the establishment of day classes for the blind in connection with the public schools of cities and provides that for each pupil in average daily attendance in such cases the State shall pay to the school board maintaining such a school the sum of $200 per year. This sum is to be used for defraying the expenses of instruction, including salaries of teachers, cost of books and materials for manual training and other lessons, and to pay car fare for children who live long distances from the school. It is also used to cover the cost of instruction in some industrial employment or in music, according to the aptitudes of the different pupils.

Classes for subnormal.—A class for exceptional children has been used as an experiment station to ascertain in just what way it is practicable to deal with children who are somewhat subnormal intellectually, and to establish rules for guidance in deciding what children can profitably be instructed in classes of this kind. Early provision will be made for the entire 300 or more now in the schools.

Ungraded classes—Non-English speaking.—There are 12 ungraded classes. They are primarily classes of opportunity. They are not designed for dull or stupid or unruly or subnormal pupils; they are intended chiefly for children who are considerably above the age of the classes in which they are found and who should have given to them some opportunity to make up the lost ground and to get into a class with children of their own age and general attainments. These classes are much used for young foreigners who do not have a knowledge of English; for boys and girls who come in from other schools or from other cities, and whose teaching has been of a different kind, so that they do not fit into the regular grades of the schools; for boys and girls who have been out of school or who have had poor educational advantages and so are two or three or four years behind the grade in which they should be.

The ungraded classes are used to some extent also for apparently average pupils who have not been able to get along in the regular classes. These children, when put into the ungraded classes, are put there chiefly in order that they may be studied, and that the teacher and the principal may be able to decide what is the cause of the pupil's backwardness.

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MINNEAPOLIS, MINN.

Stammerers.—A school for stammerers, undertaken by a competent teacher for two months, was so successful that the board engaged the teacher for an additional term of two months to instruct another set of pupils. The superintendent recommends the continuance of the work.

Ungraded school.—An ungraded school, centrally located, in 1910 received 191 pupils from 43 different schools. A pupil sent to the ungraded school is required to remain at least one month before he can be transferred to one of the regular buildings.

NEWARK, N. J.

Ungraded classes.—Several ungraded classes have been maintained, in which those children are enrolled who, through chronic truancy or persistent misconduct, are not considered fit to remain in the regular grades. For the better accommodation and training of these children two buildings are to be erected on opposite sides of the city. Each building is to contain, besides the principal's office, two class rooms suitable for the accommodation of 25 pupils each, a gymnasium, shop, and shower baths. A kitchen and proper dining-room facilities will also be provided. The sites will be spacious enough, it is hoped, for playgrounds and for school gardens.

Both these buildings are expected to be models of their kind and such as to afford the boys who attend these schools all the facilities needed for a rational training. The shop and the gymnasium features are believed to be needed to train the boys in useful habits of industry and in health and soundness of body. The kitchen feature is intended chiefly to enable the teachers in charge of the school to keep the boys on the premises during the noon intermission. Lacking this feature, it has been found necessary to allow the boys to go on the street in the noon hour, which has often resulted in their engaging in mischief or in making themselves a nuisance to the residents of the vicinity. It is thought that their retention at the school during the whole school day will serve to strengthen the habits of good behavior that the school seeks to attain as one of its main ends. Again, their retention at the school during the noon hour will afford an opportunity at lunch and in the recreation period on the playgrounds to teach lessons of appropriate social behavior which boys of this kind generally lack. Manliness of conduct, fair play, cooperation, consideration for the rights of others, sympathy, kindness, etc., are important social and civic habits which need specially to be emphasized in a school of this kind.

Schools for feeble-minded children, for the blind, for the deaf, for the crippled, and open-air classes for anemic children are planned.

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NEW BEDFORD, MASS.

Ungraded classes.—Ungraded classes, started as an experiment, have become a fixed part of our organization. While these classes are planned for illiterates and the course of study followed is such as will enable the pupils to meet the legal requirements for a work certificate, many pupils have been transferred to the regular grades and have done good work. One boy, who entered one of these classes three years ago, is now in the freshman class at the high school.

NEW HAVEN, CONN.

Disciplinary classes.—Rooms are set apart for two classes of children, viz, the refractory and non-English speaking. The rooms for the refractory are in the hands of men teachers, and each room has from 15 to 25 pupils. At present the chief value of these rooms is said to be that refractory children are removed from other schools.

Non-English speaking.—Non-English-speaking children are taken into special rooms as soon as they reach the city. The ages of the children vary from 5 or 6 to 13 or 14. The number constantly varies on account of the irregularity with which they reach the city and also the necessary irregularity with which they are promoted to grade rooms.

NEWTON, MASS.

Ungraded classes.—Special classes are maintained for backward and peculiar children, and unassigned teachers work with individuals in the regular classes who need special attention.

NEW YORK, N. Y.

In New York, when a case of truancy or incorrigibility develops, the usual method of procedure is as follows: The boy is suspended by the principal, after giving him many warnings and trials under different teachers. Official notice is sent to the parent and to the district superintendent. Parent and child are summoned to appear before the district superintendent. If upon investigation it is evident that the parent is to blame, warning is given the parent that the next offense will result in a summons to the magistrate's office and consequent fine. Whether parent or boy be in fault the boy is, if possible, transferred to another school, the principal of which is informed of all the circumstances in order that he may place the young offender where he will receive proper watching and care. The boy is also required to present at the district superintendent's office every Saturday a parole card giving a record of his daily attendance and conduct.

Parental schools.—In the vast majority of cases this procedure is effective. If it fails, parent and child are again summoned to the

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district superintendent's office and previous threats of commitment to the parental school are carried out. The accommodations at the parental schools are not proportionate to the school population. For this reason a special disciplinary school is provided. The same course of study is followed as in the regular schools, with the exception that greater emphasis is placed upon physical training and manual training. The school is large enough to permit the same grading that is followed in other schools. There are more than 100 special classes for mental defectives and 23 classes for crippled children. For these the board of education furnishes rooms and teachers. Nurses, luncheons, medical treatment, and transportation are furnished through private philanthropy.

Classes for the deaf and the blind.—There is a school for the deaf, with an attendance of 160 children. Blind children are taught in the regular classes with seeing children. Car tickets are provided for each child and his attendant when the distance from his home to the school is considerable. A teacher from the regular force gives her time to the blind children attending a given school, but after the children have acquired some proficiency in the use of the Braille slate and Braille typewriter they are sent to the regular graded classes. Books, maps, and charts in raised type are provided by the school authorities.

Open-air schools.—Day camps or open-air schools have been provided on abandoned ferryboats and elsewhere for tuberculous and anemic children, the school board providing teachers, books, and supplies.

Non-English speaking.—Classes for non-English-speaking children accommodate about 1,200 children. About 1,500 are cared for in classes for the mentally defective, and twice as many in classes for children who will shortly reach the limit of the compulsory-attendance period and are preparing to take their work certificates. More than 20,000 slow children are cared for in so-called "Rapid progress classes," in which they are given the advantages of skilled teachers and abridged and amended courses of study.

OAKLAND, CAL.

Classes for deaf.—Special classes are maintained for the deaf and for those who fail to keep up in the grade work. Saturday morning classes are maintained for those who are not able to attend school during the entire week. In connection with medical inspection, free clinics have been provided for the benefit of those children whose parents are not able to contribute full pay for services rendered.

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PHILADELPHIA, PA.

School for backward.—The first special school for the truant and incorrigible was established in this city in 1898. The number of such schools has grown to 9 at present date. The first class for backward children in a regular school was established in 1901. The number of such classes has grown to 6, and one school of 6 classes has been organized as a special school for backward and mentally deficient children only. With but two exceptions the special schools, though originally intended for the truant and incorrigible only, have by a natural classification of the pupils attending them been organized for backward and mentally deficient children also. The schools, however, are small, varying in size from but 2 to a maximum of 7 classes, and make provisions for only 1,000 pupils. There are in all 23 disciplinary classes with an enrollment of 458 boys, and 25 backward classes (6 of these are in regular schools) with an enrollment of 350 boys and 107 girls.

READING, PA.

Disciplinary class.—Two schools, one for pupils physically and the other for pupils socially not fitted to the grades, are now in operation. Since their opening in the spring of 1907, 60 boys and girls have been enrolled in the former and 111 in the latter. The results have been gratifying. Of the 111 that failed to attend punctually in the grades, 48 are now regularly employed, 23 have been returned to the grades, 13 have been transferred to other institutions, 7 have removed from the city, 1 has died, and 19 are now in the special school. The effect of this school has been felt upon the entire pupil body. Since its establishment the number of suspensions has decreased 75 per cent, and chronic truancy has lessened 80 per cent. In fact, truancy now reported is confined almost entirely to half-day and day cases.

ROCHESTER, N. Y.

Classes for subnormal and for gifted.—There are 16 classes for subnormal children in different sections of the city. The work of one supervisor and one medical inspector is limited to this department. Non-English-speaking children and delinquent children are grouped in a similar manner. Capable children in the eighth grade earn high-school credits in civics, English, algebra, Latin, and German. Seven teachers devote their time to pupils who are deficient in reading, arithmetic, and English.

ST. LOUIS, MO.

School for backward.—Two classes of exceptional children receive special attention—the deaf and the extremely backward. Children incapable of doing either the kind or amount of work that slow

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children of normal intellect can do are brought together in small two-story houses rented for the purpose. Transportation is furnished to those children whose homes are not within walking distance. Each house accommodates two classes of 15 children each. There are two teachers in each center, and a woman attendant who lives in the building and takes care of the heating and cleaning.

SALT LAKE CITY, UTAH.

Psychological clinic.—A class for subnormal children has been planned which will serve quite as much the purpose of a laboratory for the study of such children as a place for their instruction. A teacher of experience, a university graduate with special training, will have charge, and will secure the cooperation of the department of psychology and the department of medicine of the State University.

SCHENECTADY, N. Y.

Non-English speaking.—Foreign-born children are taught in separate classes until they acquire a working knowledge of English, when they are regraded according to their proficiency in other subjects.

The number of children who are over age for their grades is determined annually. Where physical defects are found, the child is placed under the care of the board of health. Where no physical defects are found the child's progress is hastened by placing him under a special teacher who gives her time to backward pupils.

SOMERVILLE, MASS.

Dental clinic.—In addition to a class for children of less than normal mental power and an ungraded class in which children remain a few weeks to make up deficiencies, a dental clinic has been organized through the voluntary services of 25 dentists who give their services without charge to the city for the treatment of school children who could not otherwise have the treatment. While the results are gratifying, it is probable that it will be necessary for the school board to cooperate in some elements of expense if the undertaking is to be made permanent and thoroughly satisfactory.

SPOKANE, WASH.

Parental schools.—A parental school is maintained, occupying a farm of 40 acres, 5 miles from the city. The board of school directors bought the land, cleared it, erected for the accommodation of 25 boys a cottage containing dormitories, kitchen, dining room, laundry, attendance rooms, library, manual-training rooms, lavatories, etc. They also provided for a schoolhouse, detached barns, chicken houses, ice house, reservoir, electric-light plant, irrigation system, wells, etc.

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The boys have a teacher for the regular school work, and, in addition to this, receive instruction in woodwork, gardening, and horticulture.

A fine stream traverses the property, affording facilities for swimming, boating, irrigation, and ice supply.

The boys are committed by the superior court on recommendation of the attendance department of the public schools.

The life on the farm in almost every case works a complete transformation of the boys, because it puts them in proper environment and gives them the right interests.

Though in operation but one year (1910) the school is crowded. More cottages will be added very soon.

Ungraded classes.—In the city there is an ungraded class of boys living at home who do not fit into the regular school organization. These boys receive individual instruction to a large extent and considerable manual training. It is planned to give a still greater proportion of shopwork to these boys.

The results of this class have been most encouraging because the boys have been given new interest where before they had none.

The establishment of a school for subnormal and other defective children is contemplated.

SPRINGFIELD, MASS.

Ungraded classes.—Five rooms are set apart for children who are backward in one or more studies and for children who can not speak English. The enrollment per room is limited to 20 pupils.

Classes for subnormal.—One special class is maintained for mentally defective children. The membership is limited to 14. Low-grade cases are not admitted. The hours of attendance are 5; 3 in the morning and 2 in the afternoon. Car tickets are furnished to those pupils whose homes are not within walking distance. Approximately two-thirds of the day is given to physical, manual, and sense-training work. Kindergarten methods and materials are used for those who need them, and the regular work done in Grades I and II is attempted, viz, reading, writing, spelling, number, drawing, singing, telling of time, story-telling, and dramatization, the emphasis being laid on object teaching and personal experience.

The teacher of this class for defective children has had special training for her work, and she is frequently called upon to examine retarded children in the various schools of the city and to determine, if possible, the reason for their retardation.

Arrangements have been completed for maintaining an open-air school for anemic children on the grounds of a centrally located school building. The enterprise is cooperative, the Association for

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the Prevention of Tuberculosis furnishing the tent, the extra clothing, the food, and the care, and the school committee supplying the regular school equipment and the instruction.

WILLIAMSPORT, PA.

Flexible grading.—The schools are divided into fast and slow divisions. A particularly slow division is taught as a special class.

Work for physically and mentally defective children is contemplated, but not yet definitely planned.

WOONSOCKET, R. I.

Non-English speaking.—Two classes have been established for the instruction of non-English-speaking children in which 51 children have been enrolled. Thirteen understood practically no English, 10 understood a little, and the others had been in the city schools two or three years, but seem to have made but little progress. Each schoolroom has a map of the United States and the American flag. The books are the same as those used in the evening schools and were prepared especially for non-English-speaking pupils. Objects and pictures are freely used and as the new words are learned the pupils are taught to use them in sentences and responses. Besides reading the pupils have had conversation, dictation, spelling, numbers, map questions, and language work.

Of the seven most advanced, one came direct from France and understood no word of English. Another of those making good progress had come here only a few weeks before entering school.

The children seem to be interested, and most of them learn very rapidly. Many of them go to work as soon as they are 14, and they seem to want to learn as much English as they can before leaving school.

WORCESTER, MASS.

In the reclassification of the special and ungraded classes in the Worcester schools there has been an attempt to classify for the present as follows:

Non-English speaking.—Those of normal ability having a knowledge of subjects in their own language, but who, because foreign born, have not a command of English. Where two classes existed in the same location they have been redivided according to age, separating the older from the younger children. For these the stress is on the English language, ability to read and write it, and the special class is a grading room, whence the pupil soon passes to a regular class. It is a question whether these should be included among the so-called special classes.

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Ungraded class.—Children of normal ability but temporarily retarded in one or more subjects by some of the previously mentioned causes. For such the special class is a clearing house, whence they pass to a regular grade.

Class for feeble-minded.—Children slow to understand, of naturally inferior intellectual ability, so constituted nervously as to be unable to profit by mass teaching; their progress slow but steady.

Class for mental defectives.—In addition to these last are those so deficient as to be entirely incapable of profiting by ordinary school methods, yet it is the task of the school to make the most of existing mentality.

Class for the physically defective.—A class of normal children suffering retardation because of some physical defect, such as seriously defective vision or hearing.

Classes for gifted.—In addition to the foregoing, exceptionally capable children are brought together into convenient centers, where they take up extra studies of high-school grade along with those of elementary grade, thus shortening the high-school course.

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CHAPTER VIII.

THE SELECTION AND TRAINING OF TEACHERS.

The best advice that can be given to the superintendent of schools who appreciates the necessity of organizing special classes, and who is desirous of introducing them, is to proceed with that he finds nearest to hand. It would be a mistake for him to wait until he has ascertained the whole number of backward or of physically and otherwise exceptional children, and then attempt to introduce a complete organization to meet the needs of all. The number of such children will be found to be much larger than the superintendent has dreamed; the expense will be much greater than the school board will be likely to assume in connection with a new enterprise in education. Moreover, it would be impossible to find anywhere in the United States a sufficient number of adequately trained teachers to meet the needs of the large number of different types of exceptional children.

In one school system it might be desirable to begin with a school for the deaf, in another with a school for crippled children, in another for disciplinary cases—depending upon the immediate and most pressing necessity in each school system. In most communities schools for truants and disciplinary cases have been relatively more firmly established than schools for other types of exceptional children. This is undoubtedly because of the bad effect of these "moral" cases upon class-room discipline.

Our advice would be to organize one class at a time, to organize it with reference to the needs of the children who have been discovered in the school system, and to organize it with some reference to the special teacher who is to have charge of it. The best provision to make for the teaching is to assign some member of the school system, perhaps a teacher of experience in primary work, who has shown an aptitude for the handling of individual cases. There is a difference between class-room instruction and individual teaching. Many admirable class-room teachers, perhaps even the best of them, will not be especially serviceable as teachers of individual cases. The teacher must have her mind on the physical and mental make-up of each child, and her interest must be not in the teaching of school branches but in getting the child to make the next step forward.

The best training of these teachers must come from actual experience. Perhaps as good a plan as any is to select a good teacher,

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give her a limited number of children, and let her work out her own salvation, for the first year at all events. After she has had some experience with such work, so that she knows her limitations and knows to some extent what she needs, it would be well for her to begin to add to her professional equipment.

The subjects in which she most needs instruction are hygiene, physiology, psychology (with special reference to the various types of defective children), and, so far as these are known, the best methods of conducting the work with different types of children. It is not to be expected that any one teacher can fit herself for work with all classes of children. For example, one teacher may be especially well equipped for articulation work; whereas another teacher may be poorly equipped for this work and yet be very successful with the ordinary backward cases.

Special training should be given to those teachers who are going to do what is, after all, the most important work for exceptional children—the training of those children who have fallen behind their grades, but who are yet capable of catching up. What is needed here is hurry-up work, forcing work; and the teacher requires unusual teaching ability and a special equipment. What is needed for this kind of work is not a knowledge of the methods of training feeble-minded children, but a knowledge of expert methods of encouraging normal mental development.

There is no one institution which offers all of the varied training which a teacher of exceptional children may require. The first training offered for public-school teachers of backward children, so far as we know, was offered by the department of psychology of the University of Pennsylvania, in the year 1897, in the summer-school course. Before this, teachers had been trained for the teaching of deaf children in the public schools, notably in Chicago and Milwaukee. Since then the Vineland (N. J.) Training School for Feeble-minded Children has put its resources at the disposal of the teachers of this country and is doing admirable work. All this and more is needed. The public schools of this country require a training school for teachers where all lines of special work will be adequately represented. Science—many different branches of science—and practice with all the common types of exceptional children must afford highly gifted and well-trained teachers the means of adding to their professional equipment what will make of them "educational experts," who will render service to their communities not only as the teachers of exceptional children but as the advisers of ordinary teachers and administrative officers and as contributors to what has been termed "orthogenics"—the science which deals with the study and treatment of mental and physical defects obstructing and retarding normal development.

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Cities reporting but not stating any provision for exceptional children.

Alabama.—Florence, Gadsden, Girard, Huntsville, New Decatur, Selma, Talladega.
Arkansas.—Paragould.
California.—Napa.
Colorado.—Canon City.
Connecticut.—Norwich, Southington.
Florida.—Pensacola, Tampa.
Georgia.—Albany, Americus, Elberton, Rome, Savannah.
Illinois.—Alton, Belleville, Blue Island, Champaign, Charleston, Clinton, Edwardsville, Elgin, Freeport, Galena, Jacksonville, Litchfield, Kankakee, Mendota, Monmouth, Mount Carmel, Normal, Ottawa, Taylorville.
Indiana.—Alexandria, Bedford, Bluffton, Garrett, Gas City, Jeffersonville, Lawrenceburg, Linton, Logansport, Madison, Montpelier, Portland, Rushville, Warsaw.
Iowa.—Albia, Cedar Falls, Crexton, Fort Dodge, Keokuk, Mason City, Missouri Valley, Oelwein, Oskaloosa, Washington.
Kansas.—Arkansas City, Cherryvale, Concordia, Galena, Independence, Rosedale.
Kentucky.—Frankfort, Madisonville.
Louisiana.—Lake Charles, Monroe, Shreveport.
Maine.—Belfast, Gardiner, South Portland.
Maryland.—Salisbury.
Massachusetts.—Blackstone, Middleborough.
Michigan.—Albion, Coldwater, Holland, Ionia, Marshall, Niles, St. Joseph.
Minnesota.—Moorehead.
Mississippi.—Columbus, Corinth, McComb, Meridian, Vicksburg.
Missouri.—Boonville, Independence, Maryville, Rich Hill, Springfield.
Montana.—Anaconda, Helena.
Nebraska.—North Platte.
New Hampshire.—Exeter, Franklin, Keene, Rochester.
New Jersey.—Hackensack.
New York.—Ballston Spa, Bath, Corning, Lyons, Matteawan, Medina, Middletown, Oneida, Ossining, Oswego, Owego, Plattsburg, Potsdam, Seneca Falls, Tonawanda, Waterloo, Wellsville.
North Carolina.—Burlington, Concord.
North Dakota.—Bismarck, Minot.
Ohio.—Alliance, Defiance, Piqua, Troy, Wapakoneta, Washington, Wellsville, Wooster, Xenia.
Oklahoma.—Perry, Shawnee.
Oregon.—Baker.
Pennsylvania.—Ashland, Bloomsburg, Carbondale, Catasauqua, Clearfield, Coatesville, Columbia, Conshohocken, Dickson City, Lock Haven, McKees Rocks, Middletown, Millvale, Northampton, Oil City, Peckville, Pitcairn, Pottsville, Renovo, Rochester, Sharon, Tamaqua, Tarentum, Towanda, Waynesboro, Wilkinsburg.
Rhode Island.—Coventry, North Kingston, Pascoag, Warren, Warwick.
South Carolina.—Chester, Florence, Laurens, Rock Hill.
South Dakota.—Aberdeen.
Tennessee.—Bristol.
Texas.—Beaumont, Corsicana, Ennis, Gainesville, Greenville, Hillsboro, Martin, Palestine, Sherman, Temple, Waxahachie.
Virginia.—Fredericksburg, Suffolk.
Washington.—Bellingham.
West Virginia.—Clarksburg, Wheeling.
Wisconsin.—Baraboo, Waukesha.

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Statistical summary of cities making provision for exceptional children.

States.	Number of cities reporting.	Delinquent.	Backward.	Defective.	Blind or semiblind.	Deaf or semideaf.	Open-air.	For foreigners.		Vocational.	Continuation.	Parental or residential.	Epileptic.	For late-entering children.	For gifted children.	Vacation schools.	Special-help teacher.	Stammerers, stutterers, lispers.	Crippled.	Incorrigible, refractory.	Dumb.	Home subnormal.	Provision for—		
								Day schools.	Night schools.														Medical inspection.	Physical examination for defects.	Dental clinics.
United States	898	121	207	94	14	46	25	73	197	136	36	24	5	75	54	8	13	2	3	7	1	1	526	444	125
North Atlantic	370	56	90	43	4	6	12	41	122	48	12	10	1	26	22	1	7	1	1	3			239	231	54
South Atlantic	60	5	14	2			1	1	4	10	2	1	1	6	2	2	1			2		1	28	22	9
South Central	90	10	18	7			1	4	8	13	6	1		7	3	1							48	31	6
North Central	322	38	66	30	9	34	9	16	53	55	14	5	2	27	19	4	4	1	2	1			174	130	44
Western	56	12	19	12	1	6	2	11	10	10	2	7	1	9	8		1			1	1		37	30	12
NORTH ATLANTIC DIVISION.																									
Maine	17		3	1	1	1			5	1					1								8	13	3
New Hampshire	12	1	2				1	2	5	2	1			1									7	6	2
Vermont	8	2	2	1					2	2	1			1	1								4	7	1
Massachusetts	103	8	28	13		2	2	11	39	22	3	1		4	8	1				1			101	92	21
Rhode Island	16	4	4	2	1	1	1	3	4	2	1	1		2			2						8	6	2
Connecticut	21	3	5	4			3	5	15	1				2									15	12	4
New York	78	13	19	7	1	1	2	12	28	10	4	6		8	8		3	1	1	2			36	36	3
New Jersey	35	12	15	11	1	1	3	1	15	4	2	1		4	2		1						33	33	8
Pennsylvania	80	13	12	4				6	16	4	1	1	1	4	2		1						27	26	10
SOUTH ATLANTIC DIVISION.																									
Delaware																									
Maryland	5	2	3	1				1	1	2		1	1	1	1	1	1			1			2	1	1
District of Columbia	1		1				1		1											1					
Virginia	11	2	5	1					1	3				2									6	6	1
West Virginia	5									1	1												3	1	1
North Carolina	13	1	4							2				3	1								7	8	3
South Carolina	7		1																				3	2	
Georgia	15								1	2	1					1						1	6	3	2
Florida	3																						1	1	1

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Statistical summary of cities making provision for exceptional children—Continued.

States.	Number of cities reporting.	Delinquent.	Backward.	Defective.	Blind or semiblind.	Deaf or semideaf.	Open-air.	For foreigners.		Vocational.	Continuation.	Parental or residential.	Epileptic.	For late-entering children.	For gifted children.	Vacation schools.	Special-help teacher.	Stammerers, stutterers, lispers.	Crippled.	Incorrigible, refractory.	Dumb.	Home subnormal.	Provision for—		
								Day schools.	Night schools.														Medical inspection.	Physical examination for defects.	Dental clinics.
SOUTH CENTRAL DIVISION.																									
Kentucky	10	1	1	1				1	2	2	1			2									8	6	3
Tennessee	7	3	4	1				1															3	3	1
Alabama	10		1						1	1		1				1							2	2	1
Mississippi	10		2	1						2				2	2								3	2	
Louisiana	6		2				1		1	1	1												2	2	
Texas	31	3	5	3				2	3	6	3			2	1								19	9	1
Arkansas	8										1												7	4	
Oklahoma	8	3	3	1					1	1				1									4	3	
NORTH CENTRAL DIVISION.																									
Ohio	31	5	5	4	2	3	3	2	7	5	4	1	1	2	3		2		1				13	14	5
Indiana	45	5	10	5		2	1	1	7	6	3			5	6		1						28	18	8
Illinois	55	3	7	2	2	3	2	5	10	7	1	1		6		1			1	1			23	16	9
Michigan	43	8	12	7		10		1	8	8	1			3	2	1							23	19	6
Wisconsin	34	3	7	4	4	14	2	1	10	8				2	2								21	20	5
Minnesota	21	4	12	3	1	1	1	4	4	11	3	2	1	4	2	1		1					15	10	1
Iowa	28	1	1						2					1	1								15	11	1
Missouri	27	6	9	3		1		1	3	2		1		3	2		1						18	11	5
North Dakota	6	1	1	1						1				1									2	4	
South Dakota	2									1															1
Nebraska	7							1	1	1					1								5	3	
Kansas	23	2	2	1					1	5	2					1							11	4	3
WESTERN DIVISION.																									
Montana	6											1											1		1
Wyoming	1													1	1										
Colorado	10	3	5	2				3	3		1	1	1	3	3		1						6	9	
New Mexico	3	1	1	1				1			1												3		
Arizona	3		1					2		1				1									1	2	

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Utah	2		1	1																		3	2	1
Nevada	1																					1	1	
Idaho	2		1						1	1				1	1							1	1	
Washington	6	1	1	2		1		1	2	1		2										5	2	3
Oregon	6	1	2	1		1		1	1	2		1			1							5	3	1
California	16	6	7	5	1	4	2	3	3	5		2		3	2					1	1	12	10	6

Cities making provision for exceptional children (indicated by ×).

Cities.	Delinquent.	Backward.	Defective.	Blind or semiblind.	Deaf or semideaf.	Open-air.	For foreigners, day schools.	For foreigners, night schools.	Vocational.	"Continuation."	Parental or residential.	Epileptic.	For late-entering children.	For gifted children.	Vacation schools.	Special-help teacher.	Stammerers, stutterers, lispers.	Crippled.	Incorrigible or refractory.	Dumb.	Home subnormal.	Provision for— Medical inspection.	Physical examination for defects.	Dental clinics.
Alabama:																								
Birmingham		×						×	×													×	×	×
Mobile															×									
Tuskaloosa											×											×	×	
Arizona:																								
Bisbee							×															×	×	
Douglas							×																	
Prescott		×							×				×										×	
Arkansas:																								
Fayetteville																						×		
Fort Smith																						×	×	
Helena																						×		
Hot Springs																						×		
Little Rock										×												×	×	
Pine Bluff																						×	×	
Texarkana																						×	×	
California:																								
Bakersfield							×						×											
Berkeley																						×	×	×
Los Angeles	×				×		×				×								×	×		×	×	×
Oakland	×	×	×		×	×		×	×				×									×	×	×
Pasadena	×	×	×	×	×								×	×								×	×	
Pomona	×	×	×																			×	×	
Riverside																						×	×	
San Bernardino		×				×	×							×										
San Francisco	×	×	×		×			×	×		×											×	×	×
San Jose		×						×	×													×	×	×
Santa Ana	×	×	×																			×	×	×

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Cities making provision for exceptional children (indicated by ×)—Continued.

Cities.	Delinquent.	Backward.	Defective.	Blind or semiblind.	Deaf or semideaf.	Open-air.	For foreigners, day schools.	For foreigners, night schools.	Vocational.	"Continuation."	Parental or residential.	Epileptic.	For late-entering children.	For gifted children.	Vacation schools.	Special-help teacher.	Stammerers, stutterers, lispers.	Crippled.	Incorrigible or refractory.	Dumb.	Home subnormal.	Provision for— Medical inspection.	Physical examination for defects.	Dental clinics.
California—Continued.																								
Santa Barbara																						[1] ×		
Santa Clara																							×	
Santa Cruz									×													×		
Watsonville									×													×		
Colorado:																								
Boulder		×																				×	×	
Cripple Creek																							×	
Denver	×	×	×				×	×					×	×								×	×	
Leadville																×						×	×	
Pueblo		×						×						×								×	×	
Pueblo (district No. 1)	×	×	×				×	×		×	×	×	×	×									×	
Salida		×											×										×	
Trinidad	×						×															×	×	
Victor																						×	×	
Connecticut:																								
Ansonia								×														×	×	
Bridgeport	×	×	×					×					×									×	×	
Bristol								×														×	×	
Danbury								×																
Derby																						×	×	
Hartford		×				×	×															×	×	×
Manchester						×		×														×		
Meriden								×														×	×	×
Middletown								×														×		
New Britain		×	×				×	×	×				×									×	×	×
New Haven	×						×	×														×		
New London								×														×	×	
Rockville							×	×																
South Manchester		×	×			×	×	×														×	×	
Stamford								×																
Torrington																						×		
Wallingford								×															×	
Waterbury								×														×	×	×
Winsted	×	×	×																			×	×	
District of Columbia:																								
Washington		×				×		×											×					

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Florida:																								
Ocala																						×	×	×
Georgia:																								
Athens																						×	×	
Atlanta								×														×	×	×
Augusta																						×	×	×
Columbus									×												×			
Cordele																						×		
Dublin										×														
Gainesville																						×		
Griffin															×									
Macon									×															
Thomasville																						×		
Idaho:																								
Pocatello		×											×	×									×	
Illinois:																								
Aurora					×																	×	×	×
Batavia							×															×		
Belvidere																						×		
Cairo									×															
Chicago	×	×	×	×	×	×	×	×	×	×	×		×		×			×	×			×	×	×
Danville	×	×																					×	×
Decatur		×																				×		×
De Kalb																						×		×
Dixon																						×	×	
Evanston																						×	×	
Galesburg																						×		
Harvey								×																
Hoopeston		×																				×		
Joliet	×	×						×																
Kewanee							×	×					×											
La Grange																						×		
La Salle		×						×					×											
Lincoln							×																	
Macomb																						×	×	×
Mattoon								×																
Maywood						×		×														×	×	
Moline									×													×	×	
Murphysboro													×									×		
Pana							×	×					×											
Pekin																							×	
Peoria																						×	×	×
Peru																						×	×	
Pontiac																						×		
Princeton									×															
Rockford								×														×	×	
Rock Island					×																			
Sterling								×														×	×	
Streator				×					×													×	×	
Sycamore									×															

[1] Partially.

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Cities making provision for exceptional children (indicated by ×)—Continued.

Cities.	Delinquent.	Backward.	Defective.	Blind or semiblind.	Deaf or semideaf.	Open-air.	For foreigners, day schools.	For foreigners, night schools.	Vocational.	"Continuation."	Parental or residential.	Epileptic.	For late-entering children.	For gifted children.	Vacation schools.	Special-help teacher.	Stammerers, stutterers, lispers.	Crippled.	Incorrigible or refractory.	Dumb.	Home subnormal.	Provision for— Medical inspection.	Physical examination for defects.	Dental clinics.
Illinois—Continued.																								
Urbana									×													×	×	×
Waukegan		×	×										×									×	×	×
Indiana:																								
Anderson								×														×		
Bloomington	×	×	×							×				×								×	×	
Columbus		×	×		×				×				×	×								×		
Connersville																×						×		
Crawfordsville									×													×		
East Chicago		×						×	×													×	×	
Evansville																						×		×
Fort Wayne																						×	×	×
Frankfort																						×		
Franklin																						×	×	×
Goshen								×																
Greenfield																						×	×	×
Hartford City										×												×		
Indianapolis	×	×	×					×						×								×	×	×
Kokomo	×	×							×													×	×	
La Fayette		×																				×	×	×
Laporte								×														×		
Lebanon																						×	×	×
Martinsville																						×		
Michigan City								×															×	
Mishawaka	×								×													×	×	
Muncie		×											×	×								×	×	
Noblesville		×	×						×				×	×								×	×	
Peru													×									×		
Plymouth																						×	×	
Richmond		×																				×		
South Bend		×	×		×		×	×		×			×									×	×	
Valparaiso														×								×	×	
Vincennes																						×	×	
Wabash	×					×																		
Washington																						×	×	×
Iowa:																								
Atlantic																						×		

Digitized by Google

Boone	×	×																				×		
Burlington																						×	×	
Cedar Rapids																						×		
Chariton								×	×													×		
Clinton																						×	×	
Davenport																							×	
Decorah																						×	×	
Des Moines								×														×	×	
Dubuque																						×	×	
Grinnell																						×	×	
Iowa City																							×	
Marion																						×		
Marshalltown																						×	×	
Newton												×	×									×		
Ottumwa																						×	×	
Sioux City								×																
Waterloo																						×	×	×
Kansas:																								
Atchison									×															
Chanute										×														
Emporia																						×		
Fort Scott																						×	×	
Horton																						×	×	×
Hutchinson																						×		
Junction City	×	×	×						×															
Kansas City								×						×										
Lawrence																						×		
Newton																						×	×	×
Ottawa																						×		
Parsons									×															
Pittsburg																						×	×	
Topeka	×	×							×	×														
Wellington																						×		
Wichita																						×		
Winfield									×													×		×
Kentucky:																								
Ashland																						×		
Covington		×							×			×										×	×	×
Danville									×													×		
Henderson																						×	×	×
Louisville	×		×				×	×		×												×	×	
Newport								×														×	×	×
Owensboro																						×	×	
Paris												×										×	×	
Louisiana:																								
Alexandria																						×	×	
Baton Rouge		×																						
New Orleans		×				×		×	×	×												×	×	
Maine:																								
Auburn								×														×	×	
Augusta								×														×	×	×
Bangor																						×	×	

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Cities making provision for exceptional children (indicated by ×)—Continued.

Cities.	Delinquent.	Backward.	Defective.	Blind or semiblind.	Deaf or semideaf.	Open-air.	For foreigners, day schools.	For foreigners, night schools.	Vocational.	"Continuation."	Parental or residential.	Epileptic.	For late-entering children.	For gifted children.	Vacation schools.	Special-help teacher.	Stammerers, stutterers, lispers.	Crippled.	Incorrigible or refractory.	Dumb.	Home subnormal.	Provision for— Medical inspection.	Physical examination for defects.	Dental clinics.
Maine—Continued.																								
Bath																							×	
Brewer																						×	×	×
Brunswick		×						×															×	
Calais																							×	
Ellsworth																						×	×	
Houlton		×																						
Lewiston		×						×	×														×	
Oldtown																						×	×	×
Portland			×	×	×			×						×								×	×	
Saco																						×	×	
Westbrook																							×	
Maryland:																								
Annapolis																						×		
Baltimore	×	×	×				×	×	×		×	×	×	×	×	×			×			×	×	
Cumberland		×																						
Frostburg	×	×							×															
Massachusetts:																								
Abington														×								×	×	
Adams							×	×														×	×	
Amherst																						×	×	
Andover																						×	×	
Arlington		×	×						×					×								×	×	
Athol		×						×														×	×	
Attleboro																						×	×	
Barnstable																						×	×	×
Belmont	×	×	×											×								×	×	
Beverly					×			×	×													×	×	
Boston	×	×	×		×	×	×	×	×	×	×				×				×			×	×	×
Braintree																						×	×	
Brockton							×	×														×	×	
Cambridge						×		×	×													×	×	×
Canton																						×	×	×
Chelmsford							×															×	×	
Chelsea		×	×				×	×														×	×	
Chicopee									×													×	×	
Clinton								×	×													×	×	

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Concord																						×	×	
Danvers																						×	×	
Dedham																						×	×	×
Easthampton								×														×	×	
Everett								×	×													×	×	
Fairhaven																						×		
Fitchburg		×							×				×									×		
Framingham								×														×	×	
Franklin																						×	×	
Gardner								×	×													×	×	
Gloucester									×													×		
Great Barrington																						×	×	
Hingham																						×	×	
Holyoke		×																				×	×	×
Hudson																						×		
Hyde Park		×																				×		
Ipswich								×														×	×	
Lee																						×	×	×
Lexington																						×	×	
Lowell		×					×	×														×	×	×
Ludlow							×	×	×				×									×	×	
Lynn	×	×	×				×	×														×	×	
Malden			×					×														×	×	
Mansfield		×																				×	×	
Marblehead		×	×										×									×	×	×
Marlboro		×	×					×						×								×	×	
Methuen																						×	×	
Melrose																						×	×	
Milford								×														×	×	
Millbury		×							×					×								×	×	
Milton									×													×	×	
Monson																						×	×	×
Natick								×														×	×	
Needham	×	×																				×	×	
New Bedford	×	×					×															×	×	×
Newburyport	×	×						×	×													×	×	
Newton		×	×					×	×													×	×	
North Adams																						×	×	×
Northampton								×														×	×	
North Andover																						×	×	
Northbridge								×														×	×	
North Brookfield									×													×	×	×
North Easton																						×	×	
Norwood		×																				×	×	×
Orange		×																				×	×	
Peabody								×														×	×	
Pittsfield		×						×														×	×	
Plymouth														×								×	×	×
Provincetown																						×	×	×
Quincy								×														×	×	
Randolph																						×	×	
Reading																						×	×	

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Cities making provision for exceptional children (indicated by ×)—Continued.

Cities.	Delinquent.	Backward.	Defective.	Blind or semiblind.	Deaf or semideaf.	Open-air.	For foreigners, day schools.	For foreigners, night schools.	Vocational.	"Continuation."	Parental or residential.	Epileptic.	For late-entering children.	For gifted children.	Vacation schools.	Special-help teacher.	Stammerers, stutterers, lispers.	Crippled.	Incorrigible or refractory.	Dumb.	Home subnormal.	Provision for— Medical inspection.	Physical examination for defects.	Dental clinics.
Massachusetts—Cont.																								
Revere								×														×	×	×
Rockland								×														×		
Rockport								×														×	×	
Saugus		×							×													×	×	
Somerville		×	×					×	×	×												×	×	×
Southbridge	×	×						×														×	×	
South Hadley Falls								×														×	×	
Spencer																						×	×	
Springfield	×	×	×					×	×													×	×	
Stoneham																						×	×	
Stoughton																						×	×	
Swampscott																						×	×	
Taunton			×					×	×				×									×	×	
Turners Falls																						×		
Wakefield								×														×	×	
Waltham								×														×	×	×
Ware																						×	×	
Watertown	×	×						×														×	×	
Webster																						×	×	
Westboro																						×	×	
Westfield																						×	×	
West Springfield							×															×	×	
Weymouth																						×	×	
Whitman																						×	×	
Williamstown																						×		
Winchenden																						×	×	
Winchester									×													×	×	×
Winthrop		×												×								×	×	
Woburn								×	×													×	×	
Worcester		×	×				×	×		×				×								×	×	×
Michigan:																								
Adrian	×	×	×																			×	×	
Ann Arbor	×	×																				×	×	
Bay City					×																			
Benton Harbor																						×		
Bessemer																						×		

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Big Rapids									×													×	×	
Cadillac		×							×															
Calumet					×																			
Charlotte													×											
Detroit	×		×		×		×		×													×	×	×
Escanaba	×	×	×																					
Grand Haven								×																
Grand Rapids	×	×	×					×		×													×	
Hancock																						×	×	
Hillsdale									×													×	×	
Houghton					×																	×	×	
Iron Mountain					×																	×	×	
Ironwood	×	×			×			×	×				×	×								×	×	
Jackson																						×	×	×
Kalamazoo		×	×		×			×														×	×	
Lansing																						×		
Ludington									×													×		
Manistique	×	×	×																			×	×	
Marine City																						×	×	
Marquette					×																		×	
Mount Clemens																						×		
Muskegon		×	×					×	×				×	×								×	×	×
Norway																								
Owasso																							×	
Pontiac																						×		
Saginaw, W. S		×			×			×														×	×	×
Sault Ste. Marie	×	×			×																	×	×	×
South Haven															×							×		
Three Rivers								×	×													×	×	×
Wyandotte								×																
Ypsilanti																						×	×	
Minnesota:																								
Albert Lea		×							×				×									×	×	
Anoka		×							×															
Austin		×							×				×										×	
Duluth	×	×					×															×	×	
Ely		×					×						×									×		
Eveleth								×	×													×	×	
Fairmont									×															
Faribault		×																						
Fergus Falls		×							×	×												×		
Hastings																						×		
Little Falls									×															
Mankato																						×		
Minneapolis	×	×	×					×			×			×	×							×	×	×
New Ulm																						×	×	
Owatonna		×							×													×	×	
Rochester	×	×	×	×	×	×	×	×	×	×	×	×	×									×	×	
St. Cloud																						×	×	
St. Paul	×	×	×				×	×	×	×				×								×	×	
Stillwater		×							×													×		
Winona																						×		

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Cities making provision for exceptional children (indicated by ×)—Continued.

Cities.	Delinquent.	Backward.	Defective.	Blind or semiblind.	Deaf or semideaf.	Open-air.	For foreigners, day schools.	For foreigners, night schools.	Vocational.	"Continuation."	Parental or residential.	Epileptic.	For late-entering children.	For gifted children.	Vacation schools.	Special-help teacher.	Stammerers, stutterers, lispers.	Crippled.	Incorrigible or refractory.	Dumb.	Home subnormal.	Provision for— Medical inspection.	Physical examination for defects.	Dental clinics.
Mississippi:																								
Greenville																						×	×	
Hattiesburg									×				×	×										
Jackson		×	×																					
Laurel																						×	×	
Water Valley		×							×				×	×								×		
Missouri:																								
Brookfield																						×		
Cape Girardeau		×											×									×		
Carterville																						×		
Carthage																×								×
Chillicothe																						×		
Columbia																						×	×	
De Soto		×																				×	×	
Fulton																						×	×	×
Hannibal	×	×												×								×		
Jefferson City																							×	
Joplin																						×	×	×
Kansas City	×	×	×					×			×											×	×	
Lexington	×	×											×											
Louisiana																						×	×	×
Macon		×																				×	×	
Marshall	×	×																						
Mexico																						×		
Poplar Bluff																						×	×	×
St. Joseph								×														×		
St. Louis	×	×	×		×		×	×	×													×	×	
Sedalia	×	×	×						×				×	×								×	×	
Trenton																						×		
Montana:																								
Bozeman																								
Butte											×													
Great Falls																						×		
Missoula																								×
Nebraska:																								
Grand Island																						×		
Hastings																						×		

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Kearney									×													×	×	
Lincoln							×							×								×	×	
South Omaha								×																
York																						×	×	
Nevada:																								
Reno																						×	×	
New Hampshire:																								
Claremont																						×	×	
Concord								×	×													×		
Concord, Penacook District		×																				×	×	
Dover								×														×	×	
Laconia								×																
Manchester							×	×														×	×	
Portsmouth																						×	×	×
Rochester	×	×				×	×	×	×				×									×	×	×
New Jersey:																								
Asbury Park		×																				×	×	
Atlantic City		×	×					×														×	×	
Bayonne			×																					
Bloomfield	×	×	×					×		×												×	×	×
Bordentown																						×	×	
Bridgeton								×														×	×	
Camden	×	×	×					×														×	×	
Elizabeth	×	×							×													×	×	×
Englewood	×		×					×														×	×	×
Irvington		×	×																			×	×	×
Jersey City	×		×					×					×									×	×	
Kearney								×														×	×	
Montclair	×	×	×			×		×														×	×	
Newark	×	×	×	×	×	×		×	×	×	×											×	×	×
New Brunswick								×														×	×	
North Plainfield		×																				×	×	
Orange	×					×		×							×							×	×	
Passaic	×		×					×														×	×	
Paterson		×						×														×	×	
Perth Amboy	×																					×	×	
Plainfield	×	×												×								×	×	
Princeton																						×	×	
Rahway																						×	×	
Ridgewood		×											×									×	×	
Rutherford																						×	×	
South Amboy																						×	×	×
South Orange		×							×													×	×	
Summit		×																				×	×	×
Trenton	×	×	×				×	×	×				×	×								×	×	×
Union													×									×	×	
Vineland																						×	×	
West New York								×														×	×	
West Orange																						×	×	
Woodbury																						×	×	

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Cities making provision for exceptional children (indicated by ×)—Continued.

Cities.	Delinquent.	Backward.	Defective.	Blind or semiblind.	Deaf or semideaf.	Open-air.	For foreigners, day schools.	For foreigners, night schools.	Vocational.	"Continuation."	Parental or residential.	Epileptic.	For late-entering children.	For gifted children.	Vacation schools.	Special-help teacher.	Stammerers, stutterers, lispers.	Crippled.	Incorrigible or refractory.	Dumb.	Home subnormal.	Provision for— Medical inspection.	Physical examination for defects.	Dental clinics.
New Mexico:																								
Albuquerque	×	×	×				×			×												×		
Raton																						×		
Santa Fe																						×		
New York:																								
Albany	×	×					×	×	×															
Albion	×	×																						
Amsterdam	×	×						×					×	×										
Auburn			×								×								×					
Batavia								×	×															
Binghamton								×			×											×		
Buffalo	×	×	×			×	×	×	×		×											×	×	
Canandaigua																						×	×	
Catskill	×												×	×								×	×	
Cortland																						×	×	
Dansville																							×	
Dunkirk								×																
Elmira		×	×					×	×	×												×	×	×
Fishkill																							×	
Fulton	×							×														×		
Glens Falls		×											×	×										
Grandville																						×	×	
Herkimer								×																
Hoosick Falls																						×	×	
Hudson Falls																							×	
Ilion																							×	
Ithaca								×	×													×	×	
Jamestown	×	×						×															×	
Johnstown																×						×		
Kingston																						×		
Lackawanna								×					×									×		
Lancaster									×															
Lawrence	×	×														×							×	
Malone													×										×	
Mamaroneck																						×	×	
Mechanicsville																							×	
Mount Vernon		×					×	×	×													×	×	

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Newark																						×	×	
Newburgh																								
New Rochelle	×	×	×					×						×								×	×	
New York	×	×	×	×	×	×	×	×	×	×	×		×	×			×	×				×	×	
Niagara Falls			×																					
North Tarrytown																							×	
Nyack		×																					×	
Ogdensburg	×	×								×												×	×	
Olean																								
Oneonta																						×	×	
Patchogue																						×		
Peekskill																							×	
Penn Yan		×												×					×					
Port Chester							×															×		
Port Jervis													×									×	×	
Poughkeepsie		×																				×	×	
Rensselaer																						×		
Rochester		×	×				×															×		
Rome																							×	
Rye							×															×		
Schenectady																						×	×	
Syracuse							×	×	×		×											×		
Troy	×	×					×	×														×		
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Cities making provision for exceptional children (indicated by ×)—Continued.

Cities.	Delinquent.	Backward.	Defective.	Blind or semiblind.	Deaf or semideaf.	Open-air.	For foreigners, day schools.	For foreigners, night schools.	Vocational.	"Continuation."	Parental or residential.	Epileptic.	For late-entering children.	For gifted children.	Vacation schools.	Special-help teacher.	Stammerers, stutterers, lispers.	Crippled.	Incorrigible or refractory.	Dumb.	Home subnormal.	Provision for— Medical inspection.	Physical examination for defects.	Dental clinics.
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Cities making provision for exceptional children (indicated by ×)—Continued.

Cities.	Delinquent.	Backward.	Defective.	Blind or semiblind.	Deaf or semideaf.	Open-air.	For foreigners, day schools.	For foreigners, night schools.	Vocational.	"Continuation."	Parental or residential.	Epileptic.	For late-entering children.	For gifted children.	Vacation schools.	Special-help teacher.	Stammerers, stutterers, lispers.	Crippled.	Incorrigible or refractory.	Dumb.	Home subnormal.	Provision for— Medical inspection.	Physical examination for defects.	Dental clinics.
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Cities making provision for exceptional children (indicated by ×)—Continued.

Cities.	Delinquent.	Backward.	Defective.	Blind or semiblind.	Deaf or semideaf.	Open-air.	For foreigners, day schools.	For foreigners, night schools.	Vocational.	"Continuation."	Parental or residential.	Epileptic.	For late-entering children.	For gifted children.	Vacation schools.	Special-help teacher.	Stammerers, stutterers, lispers.	Crippled.	Incorrigible or refractory.	Dumb.	Home subnormal.	Provision for— Medical inspection.	Physical examination for defects.	Dental clinics.
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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 685.

LESLIE J. LYONS.

LETTER

FROM

THE ATTORNEY GENERAL,

TRANSMITTING,

PURSUANT TO HOUSE RESOLUTION ADOPTED MARCH 12, 1912, FINDINGS OF THE KANSAS CITY COURT OF APPEALS IN THE MATTER OF DISBARMENT OF LESLIE J. LYONS, UNITED STATES DISTRICT ATTORNEY.

APRIL 8, 1912.—Referred to the Committee on the Judiciary and ordered to be printed.

DEPARTMENT OF JUSTICE,
OFFICE OF THE ATTORNEY GENERAL,
Washington, April 5, 1912.

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

SIR: On the 13th ultimo I received a copy of a resolution adopted by the House of Representatives, under date of the 12th ultimo, reading as follows:

Resolved, That the Attorney General of the United States be, and he is hereby, directed, if not incompatible with public interest, to transmit forthwith to the House of Representatives a copy of the charges filed against Leslie J. Lyons, United States district attorney of the western district of Missouri, together with the report of Arthur T. Bagley, special agent detailed by the Department of Justice to investigate said charges, and a statement of the action of the Department of Justice, if any, upon said charges and report.

To that I replied, under date of March 13, after quoting the above resolution, as follows:

By direction of the President, I beg to say that, in my opinion, it is not compatible with the public interest to transmit to the House of Representatives a copy of the charges filed against Mr. Lyons, nor any reports of special agents concerning the same. Many, if not all, of the matters which are the subject of these charges are involved in direct proceedings brought in the State court at Kansas City, Mo., and now pending, against Mr. Lyons, and until those proceedings are determined, unless there should be a failure to duly and promptly prosecute them, I have considered that justice to Mr. Lyons requires that no action be taken by the Department of Justice with respect thereto.

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Since that date the Kansas City Court of Appeals has rendered a decision in the proceedings brought against Mr. Lyons, the United States attorney, a copy of which I have the honor to transmit herewith. This decision deals with substantially all of the charges filed against Mr. Lyons with this department, and acquits him of any improper conduct in connection with any of them. I have the honor to be,

Very respectfully, GEO. W. WICKERSHAM,
Attorney General.

[In the Kansas City Court of Appeals. March term, 1912. No. 10169. Original proceeding—Jackson County.]

IN THE MATTER OF DISBARMENT OF LESLIE J. LYONS.

On the 19th day of August, 1911, proceedings were instituted in this court by Ernest D. Martin, an attorney at law, as complainant, for the disbarment of Leslie J. Lyons, a licensed and practicing attorney in the courts of this State, based on the following charges, as set forth in his abstract:

1. That said Lyons, while prosecuting attorney for the United States, illegally maintained a secret copartnership with one George L. Davis, an attorney, who accepts employment in defense of criminal cases, brought and prosecuted by said Lyons, contrary to and in violation of section 1039, Revised Statutes of Missouri.

2. Disregarding the truth, violating his oath, deceitfully suppressing the facts and recklessly causing investigations of Interstate Railway Co. and its officers to be made a matter of public notoriety. * * *

3. Artfully procuring valuable property from the Interstate Railway Co. by means of false pretenses, promises, and agreements, and then deceitfully and improperly withholding same from its owner.

4. Maliciously drafting an indictment containing statements which he knew were false and untrue, and unlawfully influencing a Federal grand jury to return same as a true bill.

5. Oppressively using the force and power of his official position for personal advantage and private gain, corruptly levying tribute upon or accepting employment from persons, corporations, land schemes, lottery organizations, and others, in order that they might be protected from annoyance, interference, investigation, or prosecution.

6. Unprofessionally soliciting business, taking cases away from other lawyers, employing methods commonly known in legal parlance as "Snitching," in the following case, to wit:

A. Snitching case No. 45377, Circuit Court Jackson County, Mo., entitled K. C. So. Ry. Co. *v.* Papolonisis et al., from one Ralph E. Schofield.

B. Snitching case No. 52858, Circuit Court Jackson County, Mo., entitled Link *v.* Baumgardt et al., from one Judge Ed E. Aleshire.

C. Snitching case No 14999, District Court Wyandotte County, Kans., entitled Woodcock *v.* Woodcock, from W. H. McCamish.

7. In the papers in case No. 18492, District Court Wyandotte County, Kans., entitled Bowers *v.* Jett et al., said Lyons is charged with being guilty of conspiracy, graft, fraud, and deceit practiced upon his client and other interested parties.

8. Malpractice, deceit, and misdemeanor, interfering with due course of the law, and other crimes in the following cases, to wit:

A. Ehlers *v.* Wolferman, interfering with justice.

B. State *v.* Wolferman, attempting to remove a State witness.

C. U. S. *v.* Ehlers, attempting to deport a female.

D. Adams *v.* Adams, soliciting a bribe.

E. U. S. *v.* Pickerill.

F. Arnold *v.* Cohn, et al., malicious interference.

G. U. S. *v.* Colt, suppressing evidence.

H. Huckle *v.* Hendrickson, using Government in attempting to enforce settlement of a private claim.

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These charges were referred to Thomas A. Witten, Esq., of the Kansas City bar, as a commissioner to take the evidence offered by complainant, Martin, and respondent, Lyons, and to report the same to this court without himself stating any conclusion of law or fact. In obedience to such reference the parties appeared before the commissioner in person and by counsel, and after an extended hearing and much labor by Mr. Witten he has returned into court more than 900 typewritten pages of evidence, besides a number of exhibits.

Lyons is United States district attorney for the western district of Missouri, and prior to his appointment by the President to that place was assistant district attorney. It appears that Martin was engaged, with others, in the promotion of a railway from Kansas City, Mo., passing through Kansas to St. Joseph, Mo., and known as the Interstate Railway Co. Among his associates were two men, Avery and Freundlich. Martin was vice president and general counsel of the company, and active, with others, in its management. Officials of the Post Office Department of the Federal Government seem to have thought proper to investigate the affairs of the company connected with the means used to promote the road and had post-office inspectors to look into its affairs. The result of this was that the evidence obtained by them was placed before the United States grand jury, through Lyons as district attorney. On the 3d of March, 1911, the grand jury returned one indictment against Martin, Avery, and Freundlich, and another against Avery and Freundlich, charging them with using the United States mail for fraudulent purposes in the sale of stock and otherwise obtaining money for the promotion of the railroad.

It appears that a month or more before the indictment was found it became known that the Post Office Department was conducting an investigation with a view to having the offending parties prosecuted if the evidence justified such measure, and Martin employed his present attorney in his defense, and that such attorney wrote to an assistant district attorney informing him of rumors that a prosecution "by your office" would be begun in a short time against "a number of former officials of the Electric Traction Construction Co.," which we take it was an outgrowth of the railroad company, stating that he was attorney for "Avery, former secretary of the company, and of Jeff J. Reed, former president, and a number of other gentlemen who are indirectly connected with the company"; and that his understanding was that the investigation was still going on "in the office of the post-office inspector and that no formal complaint has yet been made to your office." The letter made formal request that the district attorney grant them a hearing before any radical steps were taken by his office. Lyons himself answered this letter on the 21st of January, 1911, treating it as a request in Avery's behalf and stating that he would give him an opportunity to be heard if he should be requested to present the matter to a grand jury. Martin alleges that prior to this time a post-office inspector (acting upon the suggestion of Lyons) requested to see the records, documents, books, and papers of the Interstate Railway Co. for the purpose of examination, and that they would be kept private and returned in a few days, and that he thereupon gave over to the inspector a large number of books, papers, etc., belonging to the company. That Lyons refused to return these papers and documents, and, as already stated, caused

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an indictment against him. Martin then alleges that a few days after the return of the indictment, "one George L. Davis represented to him that he was a close personal friend of Lyons; that he had discussed the case with Lyons; that Lyons had admitted to him that the charges contained in the indictment, in so far as they related to Martin, were without foundation, and that he had no evidence upon which to base them; that his relations to Lyons were confidential, though no more, and that he was in a position to fully represent him in his defense, and that owing to his long friendship he was in a position to render valuable assistance in obtaining a speedy trial and disposition of the case." That relying upon these representations, he employed Davis as his attorney to assist his other attorneys in the preparation and defense of his case, and then and there paid him $25.

Martin then alleges that he afterwards was informed that at the time of such employment, and prior and since then, Davis was Lyons's "secret partner" in the practice of law, and that said partnership "was secretly conducted, each of the parties sharing in the profits and earnings of the firm," all of which was unknown to the public. That by reason of said partnership and Davis's employment, Lyons became possessed of facts connected with his defense. That said indictment is a "vicious and unwarranted assault on" him, Martin. That it was procured by Lyons misconstruing and perverting and garbling the evidence and documents obtained from him as already stated, and in Lyons refusing to give him "any opportunity to explain the same, or to give the grand jury an intelligent idea of the matters or things then being investigated."

Martin then charges that the grand jury at first refused to find an indictment, whereupon Lyons appeared before them and insisted upon a bill being found, that "it was necessary for his purposes," and that there would be no hardship in so doing, as, if he was innocent he would be cleared by a trial in court, and thereby persuaded them to find the indictment above mentioned.

It was then charged that Lyons refused to return the papers gotten of him, as had been already described, but on the contrary, without notice to him, had procured an order of court directing them to be placed with the clerk of the court, to be retained by the clerk for Lyons's inspection and use.

Reserving for separate consideration that part of the charge that Lyons and Davis were partners, and taking up the principal complaint relating to improper and unlawful conduct on the part of Lyons in procuring the indictment against Martin, we find it wholly unsupported by the evidence. Seven members of the grand jury were called as witnesses. None of them testified to an impropriety on Lyons's part. It seems that Avery, as expressed in evidence, had "fled the jurisdiction of the court," and was under arrest at San Francisco, Cal., and Lyons told the jury that they should "pass upon it (the indictment) one way or the other at an early date—as soon as possible," as he could not be held out there any great length of time. These members of the jury had their attention called to Avery doubtless from the circumstance of his being under arrest in a distant State. One of them stated that Lyons said we ought to find an indictment. He also stated that Lyons said that the main man was Avery, but he wanted Martin, as he was in with Avery, and that there was not very much against Martin. But, as we have said,

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there were two indictments, in one of which Martin was not included, and on cross-examination the juror said that Lyons may have been talking about the latter; that he did not remember. The testimony of the jurymen, considered together, leaves no doubt of the propriety of Lyons's action in the matter. They stated that he did not undertake to influence them, confining himself to placing the evidence before them, and retiring when they were considering what action they would take.

The testimony on the subject of getting and keeping the papers, documents, etc., belonging to the railway company, likewise fails to show any misconduct on the part of Lyons. It seems to us that the position taken by Martin himself demonstrates this. He says that he turned them over to the inspector willingly, and about all we can see in the entire matter is merely that they were not returned, and that it was explained in the following way: Martin filed a motion in the Federal court asking an order for their return. It appears that early one morning before the arrival of Martin's counsel, Lyons called attention to the motion and explained its purpose, whereupon the court ordered that the papers be placed in the custody of the clerk. It is true that this occurred after the papers had been used before the grand jury and the indictment found, but it was before the mistrial, which took place afterwards, where, of course, they would be needed as much as they were with the grand jury. When Martin's attorney appeared in court room he found the motion had been disposed of and the order made for delivery to the clerk. He immediately saw Lyons and the latter explained that the morning was disagreeably warm, the judge was anxious to get through with whatever needed attention, and finding no one present representing Martin, the judge had made the order. He showed the attorney a decision of the Supreme Court of the United States wherein it was said that the officers were justified in keeping possession of papers of that nature, to be used in evidence. But as the order had been made in the absence of the attorney, he offered to immediately have it set aside and again considered or set for hearing at any other time that suited the attorney's convenience. The latter, after reading the decision referred to, said he thought he could do nothing further, and the matter thus ended.

We regard the further complaint of misconduct, in Lyons not permitting Martin to explain to the grand jury the matters connected with the accusation against him, as unreasonable. In the first place, we do not understand it to be the duty or the custom of the official prosecutor to call accused parties before the grand jury. An investigation by a grand jury is secret and ex parte. The constitutional right to a hearing does not apply to a hearing before an accusation is made. The written request to Lyons's assistant for an opportunity for explanation "before any radical steps were taken by his office" did not disclose that inquiry was being made into Martin's acts, but into those of Avery and Freundlich, "and a number of other gentlemen who are indirectly connected with" the Electric Traction Construction Co. Lyons's answer shows that he regarded the request as made in behalf of Avery, and he testified that at that time he did not know Martin or of his connection with the promotion of the railway, and that when he came to examine into the matter he found that Avery had fled, and he did not think it wise to confer about the matter with his counsel.

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The charge of Lyons's partnership with Davis in the practice of law, to which we have already referred, is based upon the assumption that such partnership was forbidden by the statutes of this State. The different special acts of Lyons and of Davis are set forth at length, including division of fees, and then closes with these words, "and that the said George L. Davis regularly appears before said district court in defense of persons charged with misdemeanors or felonies, all of which is in violation of section 1039 of chapter 10 of the Revised Statutes of Missouri of 1909." That statute prohibits any lawyer who is a partner of a prosecuting attorney in this State from "appearing for or defending in any of the courts of this State any person charged with a misdemeanor or felony." The next section (1040) fixes the penalty for such offense at a fine and a forfeiture of his license to practice law in this State.

It is apparent that that statute relates alone to partnerships with State prosecutors and that it does not apply to a partnership with a United States district attorney. But we will not, on that account, refuse further consideration of the matter, for though the statute alleged to have been violated does not refer to a Federal district attorney or his partner, the particular specifications of the charge involve grossly reprehensible conduct and dishonesty; that is to say, if Lyons and Davis were secret partners and the latter was regularly defending persons in the United States district court, and dividing fees with the former, as charged by Martin, it would justify disbarment from practice on common principles of honesty and morality, regardless of affirmative statutory condemnation.

Too much is staked upon the honesty and good conduct of lawyers for courts to wink at flagrant misconduct. They are trusted by the community with the care of their lives, liberty, and property, with no other security than personal honor and integrity. (In re Henderson, 88 Tenn., 531, 539.) Integrity, as well as skill and learning, is essential to the character of the profession, and it becomes the duty of the bench, as well as of the bar itself, to preserve that character in its highest state, as a means of usefulness, and of answering the true end of a profession so honorable and at the same time so needful. (Dickens's Case, 67 Pa. St., 169, 177.)

It was said in an address by a noted lawyer before the American Bar Association, in 1910, that "the devil and the lawyer come together into conflict," and that "this conflict must be waged according to law."

But, notwithstanding the great breadth of the charge, there was no evidence offered to sustain it, save in the single instance of Davis taking part in the early stages of the case against Martin, and it was conceded in court, at the argument in this proceeding, that that was the only occasion. Much of the record is taken up with an attempt to show a partnership in the general practice in civil business; but, under the law of our State, a partnership between a public prosecutor and another lawyer, in civil business, is not unlawful, nor is it improper, and we have not been advised of any Federal statute against it. Many of the State's attorneys throughout this State have partners when elected to that office and it has not been thought to be necessary for them to sever such relations while in office though, of course the partner obeys the statute as well as his own sense of propriety and does not defend in criminal cases.

So, therefore, in order to sustain this charge it is necessary that the evidence should show that they were partners when Davis was defending Martin. Now, the association of Lyons and Davis was

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shown to be a most natural thing. Undisputed evidence discloses that they were natives of the same county and attended school together at the Kansas University, graduating near the same time. They were friends. Lyons came to Kansas City in 1900 and Davis in 1907. Lyons was then assistant United States district attorney, but in partnership with Mr. Finlay in civil business. The firm needed a man and Davis needed employment, and Finlay & Lyons, presumably on the latter's recommendation, took him in at $25 per month, and afterwards raised it to $50. That firm dissolved, and afterwards, in June, 1910, Lyons was appointed United States district attorney. He had a civil business and realized the necessity of assistance in correspondence, examining authorities, preparing opinions, and sometimes in the trial of his cases. He arranged with Davis to occupy one of his (Davis's) rooms with his desk, typewriter, and stenographer. He paid Davis for his work and frequently turned over to him business to which he (Lyons) could not give proper attention. Davis has at times helped him in the trial of civil cases, and he has, as is customary with lawyers, divided fees with him. In consideration of the employment and practice Davis thus gets through Lyons, Davis does not charge him any rent for his room. A young man named Wagner, a friend of Lyons, is reading law in the office and the individual names of all appear on the door of the office, together with those of two other lawyers who have offices next to them and who make use of the library. Davis, though he had passed his examination at the State capital and had a license to practice, had not been presented or enrolled with the courts at Kansas City, and for a time had permission to use Lyons's name in some of his business, and after he was enrolled he signed his own name, though frequently Lyons's also. A number of records were put in evidence to show this, but in no instance does a partnership name appear, there being simply the separate individual name of each, as in cases where two or more separate lawyers are conducting a single case.

It was shown that letterheads were gotten out with the separate full names of Lyons and Davis as "Associated attorneys at law." But this was after these proceedings were begun and can not reasonably be interpreted as an advertisement of a partnership, publicly issued at the time accusations and denials of a partnership were being made. It is not usual for an accused to voluntarily issue public proof of a charge which he, at the same time, is denying. It was explained that the letterheads were for Davis to use in his correspondence concerning business in which his assistance had been engaged by Lyons; and it was shown that each used individual letterheads in the general correspondence of each.

Martin's attorney testified that a short time after the indictment was found he was sent for by Lyons, who, in presence of Davis, told him he had heard that Martin had stated he had employed Davis to assist in his defense on account of favors which he was to get from him, and that Davis had not "delivered the goods," and that he, Lyons, had decided that Davis could not take criminal cases in the United States court and occupy offices with him. He further testified that he thereupon assured Lyons that he was responsible for Davis's employment, and that it was not expected that Davis was to take "any part in the case that was not legal or that he was to get any favors out of him that were not proper." He also testified that

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Lyons said "he was glad to hear me say that because he did not want the report to get out that Davis was employed to get favors out of his office. That it was not true. That he could not get any favors and that Davis knew it. I assured him I did not think the reports true."

Notwithstanding this disclaimer on the part of the attorney we are compelled to notice, as bearing on Martin's motive, that, according to his sworn complaint originating this proceeding, and which we have set out in the fore part of this opinion, he allowed Davis to approach him seeking employment in his defense on the ground of his knowledge of what Lyons thought of the case, and of his close friendship and confidential relations with him enabling him, Davis, to get a speedy trial and disposition of the case, and that for those reasons, "relying upon said representations," he employed him. Taking this testimony of the attorney, showing Lyons's concern, his denial, and his request for an explanation, together with these allegations in the complaint, as well as the conceded fact that no sign of favor was ever granted, and that the prosecution was in no way lessened and has in no way ceased, we think it is a wrong circumstance in behalf of Lyons on the issue of partnership.

It will be noted that the allegation is a "secret partnership," and by the use of italics in the charge stress has been put upon its being secret. Yet, singularly enough, all of the evidence brought forward to prove it was of acts of the most public character—Davis's appearance in open court in some of Lyons's cases—the signing his name to pleadings in cases, and painting the names of each on the door of a public office. These acts are the reverse of secrecy or concealment, and must have been not regarded by complainant as showing a partnership; and therefore the charge, in effect, is that, notwithstanding the outward show of separate individuals, there was between them a secret understanding or contract of copartnership; and of this there was not the slightest proof.

There being no partnership shown, no impropriety can be charged to Lyons on account of his knowledge that Davis had accepted employment from Martin.

Lyons is next charged with levying tribute upon, or accepting employment from, persons, corporations, land schemes, lottery organizations, and others, in order that they might be protected from prosecution. The particular specification concerns a corporation known as the Oregon Land Co., owning a vast body of land in the State of Oregon, said to be from 3 to 6 miles wide and 300 miles long. The description and mode of sale of this land is given by its officers, who were called by Martin. It or a similar company was organized in 1903, and Gov. Hadley was its attorney.

As we understand it, the charge is that this company was engaged in an unlawful effort to beguile and cheat investors in land, and so as to be safeguarded against prosecution for its nefarious schemes, its officers employed Lyons as its attorney. The evidence in support shows that written contracts of sale of undivided parts of the whole, of different sizes, were sold in a number of States through agents. Specific tracts then were bought, at an appointed time, at an auction sale, no one being allowed to bid except those holding contracts. The auction sale took place at Lakeview, Oreg., in September, 1909. Holders of contracts numbered 14,000, and were mostly represented at the sale by agents selected from among themselves, and 500 of these

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attended. Abstracts of title covered 900 pages, and Lyons examined these and he was shown to be the attorney of the company. He so testified himself.

Instead of the reason for Lyons's employment being that he was United States district attorney, it appears that at this time he was assistant attorney and that he had been attorney for the president of the company, individually, before its organization and before he was assistant attorney. But, in addition to this, it appears from the evidence that Mr. Hadley was the original attorney for the company, prior to his election as attorney general, and that he had examined into the nature and object of the company's business and had submitted the matter, with the forms of contract, to the department at Washington, where it was determined to be unobjectionable to the law. The evidence further shows that when Mr. Hadley became attorney general and retired from the attorneyship for the company he recommended Lyons for his successor.

However, a scheme lawful in itself may be unlawfully carried on, and we have gone over the evidence to see if there was anything of that kind in this case. We do not find any. Taking the evidence in the case as our guide to a conclusion, in connection with common knowledge of human nature, there were fewer complaints made of this entire affair, representing 14,000 transactions with as many different people, than are ordinarily found in business dealings. So far as the record shows, the parties who organized and managed this company are solvent (the record is silent), and yet no action in court was ever begun against them. The United States district attorney, let him be ever so willing, could not grant protection to crime committed against the citizens of this, or other States, having their own laws and prosecuting officers; and yet no suggestion is made that any prosecution for obtaining money by trick, or device, or by false pretenses has been instituted against the owners and managers of the company. More than that, the evidence shows that this company's operations extended over other States, where United States attorneys, other than Lyons, could institute prosecutions if justified by the facts.

Another charge is "Unprofessionally soliciting business and taking cases away from other lawyers." The specifications under this charge are that he took a case from Mr. Aleshire and Mr. Schofield, attorneys in Kansas City, Mo., and Mr. McCamish, an attorney in Kansas. The record does not show justification for the accusation in either instance. The first of these cases was Link *v.* Baumgardt. Mr. Aleshire was employed by Link and drew the pleadings. He testified that after the suit was instituted Link asked him if he—

> could handle the case on a 10 per cent contingent fee, and I told him I could not. Later on, Link told me another party was going to handle the case for him. I never talked with Lyons about the case.

Mr. Aleshire was paid for his services. It further appears that Lyons afterwards prosecuted the case. Link entirely exonerated him from any blame or impropriety. He testified that he consulted Mr. Wagner, who was his friend, and was reading law with Lyons. He said:

> I told young Wagner that I was looking for an attorney, and told him of my trouble, and asked him something about the estate he inherited, and he stated that Lyons had handled that and straightened it out for him. I asked him if he thought Lyons would handle my case on a 10 per cent basis. He told me he thought he would, and I went to Mr. Lyons.

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He further testified that Lyons told him he would have nothing to do with the case unless he settled with and satisfied Mr. Aleshire.

The next case was a condemnation proceeding against Papolonisis (a Greek). The defendant testified through an interpreter that after he had employed Mr. Schofield he asked one of his countrymen about a lawyer, and was recommended to Lyons, and that he afterwards got a friend as interpreter and went to Lyons. Lyons asked for the papers, and he told him he had left them with some attorney, but did not tell him who, when Lyons said, "Bring me the papers and I will look at them." The case did not come to trial, and he concluded Lyons was too busy and returned to Mr. Schofield.

The last of these cases is that of Woodcock *v.* Woodcock, a partition suit in Kansas City, Kans. It seems there was a mortgage on the premises for a sum sufficient to make the interests of the owners of little value. Mr. McCamish brought the action for plaintiff. Mrs. Woodcock, the plaintiff, consulted a lawyer in another county, who was an uncle of Lyons. The pecuniary interests being small, he asked Lyons to examine into it. The latter found that he could secure to Mrs. Woodcock a homestead claim for a period of 18 months, and that he could utilize that to her advantage. He got $350 for it. The costs and attorneys' fees, of $50, used up $150 of that, and he paid over to Mrs. Woodcock the remainder. There were four lawyers, including Mr. McCamish and Lyons, each getting $12.50. There is not the slightest evidence that Lyons took the case from McCamish.

Connected with the last charge is one that in one of the suits in Kansas, connected with the Woodcock partition suit, Lyons was charged with being guilty of "fraud, collusion, and conspiracy." The charge in that suit was contained in a replication to an answer, and was that the four attorneys (Lyons being one of them) in two other cases had secured an order in the Kansas court for sale of the land in litigation and payment of the proceeds of the sale on a certain judgment. The upshow of the whole affair is that in a court pleading some lawyer had charged Lyons and others with fraud, collusion, and conspiracy. There was not a particle of evidence that this charge was true, and we dismiss the matter without further remark.

The last charge is of "malpractice, deceit, misdemeanor, and interference with due course of law." The first three specifications under this charge relate to the same matter and may be considered together. It appears that Emma Ehlers, a young woman lately from Germany, through New York City, accused one Wolferman with criminal conduct with her. There was a prosecution in the State court, and a civil suit against him. Wolferman was acquitted in the State case, and the civil suit ended in some way which does not appear in evidence—one witness said it was compromised. While these cases were pending a Federal officer from the Department of Commerce and Labor came to Kansas City to serve a writ upon her. The object stated was to prevent the statute of limitations from running in case she became dependent, and it was desired to deport her under the Federal law. The officer was prevented from seeing her and he went to Lyons, as a Government official, for assistance. Lyons called up her attorney and told him that if he prevented the officer from serving the writ he would be compelled to proceed against him for interfering with process. The writ was then served. It was not the purpose to deport her then. It was not shown that Lyons had any interest in the matter, nor is it pretended that he

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had anything to do with the cases in which she was concerned. He stated the matter of her deportation was within the jurisdiction of the officials in New York City and advised the officer to send the result of his action and investigation to the proper officer in that city Whatever interest, if any, Wolferman may have had in getting the young woman out of the country, there is nothing tending in any degree to show that Lyons was connected with it; or that he did anything more than perform his plain duty in warning the parties concerned not to secrete the woman from the officer's process.

Specification D, under this charge, called "soliciting a bribe." The evidence showed that Lyons was attorney for the wife in an action brought against her for divorce, and nothing was shown having any tendency to show a bribe was asked.

Specification E is called "U. S. *v.* Pickerell." It appears that Pickerell was charged with sending obscene matter through the mails, and the complaint against Lyons is that he acted unprofessionally in attempting to keep Pickerell's lawyer from getting a fee for his defense. Pickerell had illicit relations with Mrs. Tanner, a weak-minded woman (whom her father had put in charge of a servant and placed in a sanitarium), and when he was arrested the lawyer got his brother-in-law, Cohen, to go his bail, and the two procured the woman to convey her property to Cohen by warranty deed, which her father had given her. At the same time contracts were obtained for an exorbitant fee for the lawyer, including a "percentage of the value of her furniture," and to compensate and indemnify Cohen for signing Pickerell's bond. This deed, presumably, was to secure these contracts. When the woman's father learned of this he undertook to protect his daughter by employing Lyons to bring an action to set aside the deed.

Why this commendable act by Lyons in endeavoring to aid the father in his effort to thwart this deal and save his daughter's home should be set up as a cause for disbarment, we can not understand.

The next charge is that Lyons suppressed evidence in the case of United States *v.* Colt. It appears that Colt was indicted and convicted in the Federal court for misuse of the mails in connection with what was termed a fake loan or brokerage business. Before the trial Colt's mother and his lawyer called on Lyons, representing that Colt was a good-faith broker and that it was preposterous to say otherwise. They spoke of numbers of people in New York City and other places that he was authorized to represent. Lyons expressed a willingness to investigate and they gave him a list of parties or names, addresses and loans with which Colt was connected. Lyons testified that he turned this over to a secret-service officer representing the Department of Justice for investigation, who reported that he could not find that Colt had any connection with most of them. The paper or list was not returned to Lyons by the officer and consequently was not returned to Colt's mother or his attorney. Lyons testified that it was a mere list of names on a sheet of paper, and no suggestion was made that he should return it, and that he had no idea it was expected that he should; and that he never knew they wanted it until one evening during the trial of the case, no notice ever being given him to produce, and that he was called by the defendant as a witness and stated all his connection with the paper and what was on it. There is a total failure to show any thought or attempt on Lyons's part to suppress evidence or that there was any impropriety in what he did.

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The next and last charge included in Martin's summary of the charges relates to "using Government in attempting to enforce settlement of a private claim" in a trade between Huckel and Hendrickson. Lyons had been Huckel's lawyer for several years, and it appears that Hendrickson traded a large number of horses running on the range in Arizona to Huckel for four automobiles, two of which were delivered. It was shown in evidence that Hendrickson had traded for the horses with one Smith, said to be president of the United States Live Stock Co., at Omaha, giving him, Smith, "a section of land and an automobile." He gave Smith, so the latter testified, an old automobile and "a section of land" for "400 or 500 head of horses" running on the range in Arizona. Huckel went out to Arizona and failed to find any horses, and was informed there that Smith was selling horses which did not exist, and when he got out of horses he had on the range he would sell those he had on paper. Huckel returned to Kansas City and Smith was down from Omaha. He figured largely in the attempt made by Huckel to get a settlement with Hendrickson. He was a horse trader, and testified that he traded horses for land, and for money when he could get it. He seems to have been in many places over the western country, having lived in several towns in Nebraska, as well as in Wyoming and South Dakota, where he had a saloon; and had also been a cowboy in Colorado. Huckel got Lyons to assist him to adjust the matter. They all met at Huckel's garage. As Smith traded the horses to Hendrickson, the question whether there were any horses, and if so, where, naturally was propounded to Smith. It was suggested that the whole affair was a fraud. Smith grew quite belligerent, and there was testimony that Lyons said he would have him arrested. It was stated and denied that Huckel had introduced Lyons to the others as United States district attorney. The conference ended by Smith agreeing to gather up the horses in Arizona and load them for shipment at $5 per car, which Huckel was to pay. A written agreement to that effect was written by Lyons and sent to Smith at Omaha, but be failed to sign, saying that his "company" (of which he was president) refused. He expressly stated in his testimony that nothing that was done in the settlement was caused by Lyons being United States district attorney, and that "that cut no figure." There was much other evidence of this transaction, but nothing justifies the allegation that Lyons, in the language of the charge, was "using (the) Government in attempting to enforce settlement of a private claim."

Some of the foregoing charges were of rather indefinite nature, too much so under the rule of pleading in such cases. (Weeks on Attorneys at Law, sec. 83, p. 176.) But the respondent has not made objection on that head and so, in consequence, we have not.

The foregoing is a review, as comprehensive as can be made within reasonable limits of an opinion, of the charges quoted at the outset. There were one or more other charges which seem to be abandoned and have not been urged here. The evidence purporting to sustain them contains nothing derogatory to Lyons.

In addition to those, there was one charge of a very serious nature that occupied much of the time of the commissioner and which made up a large part of the record. There was no evidence offered to sustain it that, under any rule of evidence, could be received against Lyons, nor was there the slightest proof that he ever knew anything connected with the subject of the accusation. After making so grave

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a charge and spending such length of time in endeavoring to sustain it, it was abandoned and withdrawn at the argument.

It can not escape the attention of anyone examining the record that the moving cause of this effort at disbarment is the fact that Lyons was performing an official duty, as he saw it, in prosecuting the complainant for an alleged violation of the Federal law. There is no suggestion in the record of any reason why he should desire to persecute him. He was neither his enemy nor his friend. He did not know him, and the vigor of his prosecution, as disclosed in evidence, shows that it was not from any base design. We are not aware of any suggestion of motive save that he thought him guilty, and the fact of the mistrial, referred to in argument, is persuasive evidence that reasonable cause for the prosecution was not wanting. We note in the testimony in this case of complainant's attorney in that case, he being also his counsel in this case, that in addition to trying through Lyons to prevent an indictment, as we have above shown, he, in an interview with Lyons some months after one was found, "tried to show him that he ought to dismiss it, but did not satisfy him." He then added that "these charges were filed two weeks after."

No impeachment of reputation was attempted by the complainant, yet Lyons, exercising his right in that respect, called several leading citizens as to his life and character. These were his teachers when a boy and young man, members of the bar in the front rank of the profession, and leading business men of the city. These did not testify in a mere formal manner. His teacher told of his making his own way and of the excellence of his character, and so did employers. One lawyer who has observed him since he began the practice stated his reputation as an official and man was "as good as could be, so far as I know, and, I will add, so far as I believe." Another, who had been a trial judge, had observed him from the bench and in the practice. He said his reputation "is good—excellent," and he had never heard it questioned. Another ex-circuit judge said of his reputation, officially and otherwise, that "it is very good—the very best." Another said, "I have always considered him a man of high professional ideals; as a citizen I would trust him, I think, as far as any lawyer I know at this bar."

A business man, president of the commercial club, testified that—

> I have had a very intimate acquaintance with him. We have been associated in many affairs socially and in church work and matters of that kind quite closely; and in public matters—movements of that class and character. I certainly do know Mr. Lyons's reputation. I class him as one of our best citizens. I only wish the Lord would send us 100,000 more like him.

It seems to us apparent that the controlling motive behind this proceeding is not to purify the bar, but that complainant, smarting under a prosecution which he deems unjust, has allowed his feeling of resentment to lead him to an attack on the district attorney. While a prosecutor, Federal or State, should not permit zeal in performance of public duties to lead him into persecution, yet he ought to be allowed a full performance of that duty, unhampered by the embarrassment of disbarment proceedings. Our finding is that the charges are not supported by the evidence, and the proceeding will be dismissed. The other judges concur.

JAMES ELLISON.

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 687.

OFFICIAL RECORDS OF THE COURT OF CLAIMS.

LETTER

FROM

THE SECRETARY OF WAR,

CALLING ATTENTION TO H. R. 16820, RELATING TO THE SUBJECT OF FURNISHING INFORMATION FROM OFFICIAL RECORDS FOR THE USE OF THE COURT OF CLAIMS AND THE DEPARTMENT OF JUSTICE, AND RECOMMENDING THAT SECTION 4 OF THE BILL BE STRICKEN OUT.

APRIL 15, 1912.—Referred to the Committee on War Claims and ordered to be printed.

WAR DEPARTMENT,
Washington, April 13, 1912.

Hon. CHAMP CLARK,
Speaker of the House of Representatives.

SIR: Your attention is respectfully invited to the provisions of section 4 of H. R. 16820, Sixty-second Congress, second session, introduced by Hon. Mr. Byrnes of South Carolina, on January 4, 1912, and to the fact that the Committee on War Claims of the House has recommended the passage of the proposed measure in House Report No. 505, Sixty-second Congress, second session.

It does not appear that the War Department is concerned in the subject matter of the proposed legislation, but the fourth section of the proposed measure has a very material bearing upon the work of the department and the interests of the public service. The section referred to reads as follows:

> That any and all departments of the Government shall furnish to the claimant or the counsel for the United States, in any and all claims filed in said court by virtue of this act, copies duly certified, under seal of the department, of any and all papers or documents in the custody of the department in respect to said claims which contain evidence in support or defense thereof.

The rules of the War Department relating to the subject of furnishing information from the official records in its custody for the use of the Court of Claims and the Department of Justice are as follows:

> Whenever it is desired by the Department of Justice that claimants or their attorneys shall have permission to examine papers pertaining to cases pending in the Court of Claims, such permission will be given with the condition that the examination shall be made in the War Department and in the presence of an officer of the Department of

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Justice. Facilities will be afforded at all times to officials or duly accredited employees of the Department of Justice to examine, in the department, any records that pertain to pending cases, and to make such copies of or extracts from those records as may be desired. Claimants or attorneys will not be permitted to examine records except as hereinbefore directed.

Copies or abstracts of documents called for by the Court of Claims or the Department of Justice will be furnished whenever it is practicable to do so; but, because of the limited clerical force available for work on the records in question, and because of the pressure of other current business, much of which is imposed upon the department by law, copies or abstracts of records will not be furnished when, because of their voluminous nature or for other reasons, it would be manifestly injurious to the public service to furnish them. In cases in which copies are not furnished, however, the original records will be produced in court, upon receipt of due notice, during the tria of the cases. Facilities will also be afforded in any such case, as hereinbefore directed, to representatives of the Department of Justice, and to claimants or attorneys, to examine the records in the department and to make such copies of or extracts from them as may be necessary.

Whenever a request is made for facts, circumstances, and evidence, or facts, information, and proofs, touching claims against the Government, and there is a large mass of matter, concerning the relevancy or materiality of which the officer in charge of the Record and Pension Office is in doubt, it will be his duty to request that the proper officer of the Department of Justice personally examine the original documents, and indicate what information, evidence, or proofs the interests of the Government will require under the statute.

Original records will not be taken out of the War Department except for the purpose of producing them in court, as hereinbefore directed, and then only in the custody of an employee of the department.

It will be seen from the foregoing that it is already the practice of the War Department to furnish copies of papers or documents called for by the Court of Claims or the Department of Justice whenever it is practicable to do so, and that when it is impracticable to furnish the copies asked for, because of the labor involved in making such copies or for any other reason, provision is made for an examination of the records in this office by claimant's attorneys or representatives of the Department of Justice, and for the production in court at time of trial of such records as may be required.

If the proposed measure were to be enacted into law it would become necessary, under the terms of section 4 thereof, to furnish copies "of any and all papers or documents in the custody of the department in respect to said claims which contain evidence in support or defense thereof," irrespective of the amount of clerical labor involved "to the claimant or the counsel for the United States."

Many claims that have become the subjects of consideration by the Court of Claims have been investigated by the military authorities, and the papers relating to such investigations in the custody of this department often embody the testimony of witnesses and official reports of such length that the labor involved in furnishing copies thereof would be very great, and would seriously interfere with the important current business of this department.

However, the most serious feature of the proposed legislation is that it provides that copies of papers or documents relating to claims shall be furnished not only to the counsel for the United States but also "to the claimant."

While there is no objection to permitting claimants or their attorneys to examine records in the War Department after the petition setting forth the claim is filed, provided that such claimants or their attorneys be accompanied by a representative of the Department of Justice, yet to furnish copies of papers to claimants as provided in the pending bill, without the usual safeguards, would enable them to

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use the information so furnished in the preparation and prosecution of claims against the Government, and would deprive the Government in a large measure of the protection against imposture and fraud that is now afforded by the opportunity of the officials of the Department of Justice and the justices of the Court of Claims to compare with the official records the allegations made by or in behalf of claimants in accordance with the knowledge and recollection of those testifying, and independently of the official records. It would also be an incentive to the perpetration of fraud and is, therefore, dangerous to claimants and their attorneys as well, either of whom if detected in an attempt to prosecute a fraudulent claim is subject to severe penalties upon trial for and conviction of the offense in question.

The law now in force relating to the subject of furnishing copies of records for the use of the Court of Claims is embodied in section 164 of the so-called "judiciary act" approved March 3, 1911 (37 Stat. L., 1087), which reads as follows:

> The said court shall have power to call upon any of the departments for any information or papers it may deem necessary, and shall have the use of all recorded and printed reports made by the committees of each House of Congress, when deemed necessary in the prosecution of its business. But the head of any department may refuse and omit to comply with any call for information or papers when, in his opinion, such compliance would be injurious to the public interest.

The law cited and the rules of the department set forth hereinbefore seem to be amply sufficient to serve all practical purposes, and to enact the provision set forth in section 4 of the measure under consideration would not only result in a very considerable expenditure of time and clerical labor, but would also nullify the wise provision embodied in section 164 of the judiciary act, quoted hereinbefore, authorizing the head of any department to "refuse and omit to comply with any call for information or papers when, in his opinion, such compliance would be injurious to the public interest." Furthermore, such a provision as that proposed in section 4 of the pending bill would in itself, for reasons set forth hereinbefore, be injurious to the public interest.

Claimants and their attorneys have frequently sought the aid of the official records in the War Department for use in the preparation of claims against the Government, but all applications for information for that purpose have been uniformly denied under the rules of the department, and if the pending bill were to be enacted into law the rules of the department would be nullified and the door would be opened to dishonest claimants to prosecute fraudulent claims against the Government.

It is earnestly recommended, therefore, that the pending bill be amended by striking out section 4 thereof.

Very respectfully,

HENRY L. STIMSON,
Secretary of War.

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 688.

APPROPRIATION FOR PROTECTING LEVEES FROM FLOODS.

MESSAGE

FROM THE

PRESIDENT OF THE UNITED STATES,

TRANSMITTING

COMMUNICATION FROM SECRETARY OF WAR SETTING FORTH NECESSITY FOR ADDITIONAL APPROPRIATION FOR PROTECTING LEVEES ALONG MISSISSIPPI RIVER.

APRIL 15, 1912.—Read; part in relation to levees referred to the Committee on Rivers and Harbors and part to recompense War Department referred to Committee on Appropriations and ordered to be printed.

To the Senate and House of Representatives:

I transmit herewith communication from the Secretary of War, in which he sets out the necessity for an additional appropriation to meet the expenses which have been incurred and are likely to be incurred by the War Department in meeting the emergency of the present floods upon the Mississippi River and its tributaries.

The estimates include an estimate of $300,000 from the Chief of Engineers, in addition to the $350,000 already appropriated, to be used for the same purpose as the original appropriation in protecting levees against impending floods. It applies to the tributaries of the Mississippi as well as the main river, but does not include any estimate for damages already caused in districts where the crest of the flood has passed.

The Quartermaster General estimates that an expenditure of $275,000 will be required to cover the expenses which he is incurring, and will be obliged to incur, in furnishing shelter, forage for cattle and horses, transportation, etc.

The Commissary General estimates that he will require the sum of $212,879.11 to cover the expense of the rations which he is supplying, and will be obliged to supply, to the thousands of destitute persons in the flood regions.

The crest of the flood is now reaching the lower portion of the Mississippi, where the country is flatter and where the danger to the

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levees is at least as great as above, and where the damage and loss to persons and property, if crevasses occur, will be far greater then on the upper river, necessitating even a greater amount of relief work than that already incurred.

These estimates have been carefully made and are based on communications from officers of the Army now upon the ground superintending the relief and engineering work.

I respectfully urge upon Congress the importance of meeting this great emergency. The estimates, copies of which are transmitted herewith, have been sent regularly to the Secretary of the Treasury, to be submitted in Congress.

WM. H. TAFT.

THE WHITE HOUSE, *April 15, 1912.*

WAR DEPARTMENT,
Washington, April 15, 1912.

The PRESIDENT.

SIR: I have the honor to transmit herewith for your approval estimates made by the Chief of Engineers, the Quartermaster General, and the Commissary General in reference to the Mississippi flood. These estimates include the amounts which have been already expended in relieving those who have been made destitute by the floods and in protecting the levees against impending floods. From them you will see that there has already been expended by the Chief of Engineers $310,000, and that he estimates that the amount of $300,000 in addition to the $350,000 already appropriated will be necessary.

The Quartermaster General has expended $179,250.47, and estimates that a total expenditure of $275,000 to meet the present emergency will be necessary.

The Commissary General has already expended the sum of $50,879.11, and estimates that it will be necessary to provide for the relief of destitute people during the next 30 days, the sum of at least $162,000 more, making a total of $212,879.11.

These estimates have been carefully made and are based upon telegraphic communication from the officers representing the three different bureaus who are there on the ground, as well as the local officers who have been ordered there to meet the emergency. In all there are now on the ground 14 officers attending to the work of watching the levees and distributing relief.

These estimates cover the tributaries as well as the main Mississippi River, but do not include any sums of money to be spent for repairing damages already caused in localitites where the crest of the flood has passed. In omitting such estimates, the Chief of Engineers has followed, as he informs me, the invariable practice of Congress heretofore.

The present flood is the highest ever recorded. As the crest is moving down the river, the reports make it very clear that the estimates aforesaid will not be excessive in order to meet the emergency.

Very respectfully,

HENRY L. STIMSON,
Secretary of War.

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WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, April 15, 1912.

The SECRETARY OF WAR.

SIR: 1. Referring to the appropriation of $350,000, appropriated by the act of Congress approved April 3, 1912, for the purpose of maintaining and protecting against impending floods the levees on the Mississippi River between the Head of the Passes and Cape Girardeau, Mo., and the act of Congress approved April 9, 1912, making funds appropriated by the act of April 3 available for similar work on the tributaries of the Mississippi River, I have the honor to report that on April 4, 1912, upon the recommendation of the president of the Mississippi River Commission and approved by me, you authorized the allotment of $40,000 to the district engineer officer stationed at Memphis, $40,000 to the district engineer officer stationed at Vicksburg, and $60,000 to the district engineer officer stationed at New Orleans, for use in their respective districts for the purpose mentioned in the act; and under date of April 9, 1912, you approved additional allotments of $60,000 to the officer stationed at Memphis, $60,000 to the officer stationed at Vicksburg, and $50,000 to the officer stationed at New Orleans, making a total of $310,000 allotted prior to to-day.

2. A telegram has now been received from the president of the Mississippi River Commission recommending the allotment of the remaining $40,000 of the above appropriation to the district officer stationed at New Orleans. A further recommendation has been received from the president of the Mississippi River Commission for an additional appropriation of $200,000, to be allotted as follows: Fifty thousand dollars to the officer stationed at Memphis, $100,000 to the officer stationed at Vicksburg, and $50,000 to the officer stationed at New Orleans; all of the above for use on the main river.

3. In view of the great difficulty in arriving at an accurate estimate of the amount which will be required for the protection and preservation of the levees, and as the necessity for pushing all work rapidly does not justify any limitation on the assistants in the field with reference to the hire of labor and purchase of material, it is recommended that Congress be asked immediately to appropriate $300,000, to be available for either the main river or the tributaries, as may be required.

Very respectfully,

W. H. BIXBY,
Chief of Engineers, U. S. Army.

Summary of known costs to Apr. 14.

Appropriation:		
Regular supplies	$12,774.00	
Incidental expenses	15,719.55	
Army transportation	4,755.78	
Clothing and equipage	107,001.14	
		$140,250.47

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Estimated requirements for an additional 20 days.

Appropriation "Regular supplies" for 4,000 animals, at 30 cents per animal per day	$24,000.00	
Appropriation "Incidental expenses," telegrams and telephone messages	4,000.00	
Appropriation "Army transportation," hire of boats and transportation charges	11,000.00	
		$39,000.00
Grand total for requirements to meet existing flood conditions		179,250.47

Appropriation, "Regular supplies," St. Louis.

Columbus, Ky.: 6 paulins, large	$193.50	
Tiptonville, Tenn.: 6 paulins, large	193.50	
Hickman, Ky.: 6 paulins, large	193.50	
New Madrid, Mo.: 6 paulins, large	193.50	
Total appropriation "Regular supplies," St. Louis		$774.00
Forage of 4,000 animals for 10 days		12,000.00
Grand total		12,774.00

Appropriation, "Incidental expenses," St. Louis.

Columbus, Ky.:		
10 barrels lime	$9.00	
10 barrels crude oil	45.90	
Tiptonville, Tenn.:		
10 barrels lime	9.00	
10 barrels crude oil	45.90	
Hickman, Ky.:		
10 barrels lime	9.00	
10 barrels crude oil	45.90	
New Madrid, Mo.:		
10 barrels lime	9.00	
10 barrels crude oil	45.85	
Total, appropriation "Incidental expenses," St. Louis		$219.55
Cost of telegrams and telephone messages, 10 days		3,500.00
Funds furnished officers on duty in flood district		12,000.00
Grand total		15,719.55

Appropriation "Army transportation."

Transportation charges reported from depots covering shipment of tentage, etc	$1,755.78
Hire of boats, etc., 10 days	3,000.00
Total	4,755.78

Appropriation, "Clothing and equipage"—Cost to date.

St. Louis to Columbus, Ky.:		
720 pins, tent, small	$7.20	
30 poles, tent, common, ridge	10.50	
60 poles, tent, common, upright	13.80	
30 tents, common, drab	417.30	
		$448.80
St. Louis to New Madrid:		
2,400 tent pins, small	24.00	
100 poles, common, ridge	35.00	
200 poles, common, upright	46.00	
100 tents, common, drab	1,391.00	
		1,496.00

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St. Louis to Hickman, Ky.:		
1,500 tent pins, large	$30.00	
1,500 tent pins, small	15.00	
50 poles, pyramidal	36.50	
50 tripods	46.50	
50 tents, pyramidal	2,030.50	
		$2,158.50
St. Louis to New Madrid:		
160 flies, tent, hospital	2,736.00	
3,000 tent pins, large	60.00	
7,000 tent pins, small	70.00	
160 poles, hospital, ridge	320.00	
320 poles, hospital, upright	400.00	
160 tents, hospital	7,323.20	
100 poles, common, large	35.00	
200 poles, common, upright	46.00	
100 tents, common, drab	1,391.00	
		12,381.20
St. Louis to New Madrid:		
100 pyramidal tents	4,321.00	
100 pyramidal-tent poles	15.00	
100 pyramidal-tent tripods	93.00	
2,800 pyramidal-tent pins, large	84.00	
2,800 pyramidal-tent pins, small	28.00	
		4,541.00
St. Louis to New Madrid:		
50 hospital tents, large	3,406.00	
50 hospital-tent poles, ridge	100.00	
100 hospital-tent poles, upright	125.00	
900 pins, large	27.00	
1,300 pins, small	13.00	
		3,671.00
St. Louis to Memphis, Tenn.:		
321 tents, common	4,902.16	
321 poles, ridge	112.35	
642 poles, upright	157.66	
7,704 pole pins, small	77.04	
127 tents, hospital, complete	8,651.24	
127 poles, ridge	254.00	
254 poles, upright	158.75	
2,286 pins, large	68.58	
3,302 pins, small	33.02	
		14,414.80
St. Louis to Charleston, Mo.:		
400 blankets, woolen, blue, light	992.00	
200 mattresses, cotton	472.00	
		1,464.00
St. Louis to Charleston, Mo.:		
5 flies, tent, hospital	35.50	
90 pins, tent, large	1.80	
130 pins, tent, small	1.30	
5 poles, hospital tent, ridge	10.00	
10 poles, hospital tent, upright	12.50	
5 tents, hospital, khaki	228.85	
		339.95
Total appropriation "Clothing and equipage," St. Louis		40,915.25
Philadelphia to Hickman, Ky.:		
200 wall tents, complete	6,434.00	
200 wall poles, ridge	104.00	
400 wall poles, upright	116.00	
2,000 tent pins, large	74.00	
3,400 tent pins, small	34.00	
		6,762.00

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Jackson Barracks to Helena, Ark.:		
4 tents, common	$55.64	
11 wall tents	359.81	
20 conical wall	735.00	
Tent pins	16.13	
123 cots	322.26	
		$1,488.84
Total appropriation "Clothing and equipage"		49,166.09

Tentage shipped from Omaha to St. Louis, supplied flood sufferers:	
1,369 wall tents, complete, regulation, $32.17 each	44,040.73
44 wall tents, tropical, $18.55 each	816.20
118 tents, hospital, complete, regulation, $68.12	8,038.16
9 hospital tents, tropical, complete, $95.06	855.54
574 poles, ridge, hospital, $2	1,148.00
1,148 poles, upright, hospital, $1.25	1,435.00
836 wall-tent poles, ridge, $0.52	434.72
1,662 wall-tent poles, upright, $0.35	581.70
48,500 tent pins, small	485.00
Total	57,835.05
Amount brought forward	49,166.09
Grand total	107,001.14

WAR DEPARTMENT,
OFFICE OF THE QUARTERMASTER GENERAL,
Washington, April 14, 1912.

The SECRETARY OF WAR,
Washington, D. C.

SIR: I have the honor to transmit herewith an estimate for the relief of sufferers from floods in the Mississippi and Ohio Valleys, $275,000, together with a detailed statement of known expenditures to date, on which the estimate was based. This estimate and papers pertaining thereto have been delivered to the Secretary at his residence in conformity with verbal message received from the secretary to the Secretary of War.

Respectfully,

J. B. ALESHIRE,
Quartermaster General, United States Army.

Estimates of appropriations required for the service of the fiscal year ending June 30, 1912, by the Quartermaster's Department, United States Army.

Relief of sufferers from floods in the Mississippi and Ohio Valleys:

For providing tents and other necessary supplies and services for relief of the sufferers from floods in the Mississippi and Ohio Valleys in 1912 and for reimbursement of the several appropriations for the Quartermaster's Department, United States Army, from which temporary relief has already been or may be afforded $275,000

NOTE.—In the emergency arising from recent floods in the Mississippi and Ohio Rivers the President has ordered that the supplies of the Army be drawn upon for the relief of those whose homes have been devastated, and in accordance with such instructions tents and other supplies have been furnished from stock at quartermaster's depots and purchased, where necessary, out of quartermaster funds.

The appropriations for the Quartermaster's Department are all required for the purposes for which provided, and this estimate is submitted with a view to procuring funds with which to reimburse the Quartermaster's Department appropriations concerned to the extent of the value of the supplies issued and purchased and services rendered, and to cover such relief as it may yet be necessary to extend to the sufferers. Reports thus far received from the quartermaster in charge of relief work in the flooded districts at New Madrid, Mo., and other points indicate that considerable more relief will have to be rendered in districts farther down the valley.—J. B. ALESHIRE, *Quartermaster General, U. S. Army.*

Approved: WM. H. TAFT.

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Estimates of appropriations required for overflow sufferers, fiscal year ending June 30, 1912, by the Subsistence Department.

Relief of flood sufferers:

Estimated amount which will be required for each detailed object of expenditure $212,879

So far as information is available at this time as to the number of people to be fed, it is thought that the following may be considered as a conservative approximation:

Arkansas City and near by	2,600
Helena, Ark. (latest report shows about 3,000 must be fed for at least three weeks longer)	3,000
New Madrid, Mo	500
Point Pleasant, Mo	700
Portageville, Mo	500
Memphis and around that city	3,100
Charleston, Mo. (1,200 and more coming in)	1,200
Hickman, Ky. (on which is based Tiptonville, Columbus, East Prairie, Anniston, Mo., and other points)	10,000
Greenville, Mo	800
Wickliffe, Ky	200
Vicksburg, Miss	3,000
Caruthersville, Mo. (which is looking after Luxora, Osceola, and other points)	200
Dyersberg, Tenn. (which is looking after surrounding country, including Lauderdale, Lenox, Finley, Jackson Crossing, etc.)	1,200
Total	27,000

The sum of $50,879.19 has already been furnished for the purchase of supplies for the relief of flood sufferers. Considering the approximate estimate of 27,000 people, as shown above, who must be supplied, in all probability for 30 days or more, and local prices being slightly higher than in large centers, the ration now being issued will cost perhaps in the neighborhood of 20 cents per day. At this figure the number, as indicated above, being 27,000 for 30 days at 20 cents per day, would amount to $162,000; funds already supplied, $50,879.19; makes a total of $212,879.19.

This is considered a conservative estimate, and it is thought that an estimate should be submitted for at least $212,879, in order to cover past expenditures and future indebtedness.

D. L. BRAINARD,
Lieutenant Colonel, D. C. G.,
For and in the absence of the Commissary General.

WAR DEPARTMENT,
OFFICE COMMISSARY GENERAL,
April 13, 1912.

Approved: WM. H. TAFT.

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 694.

MEAT-INSPECTION SERVICE.

MESSAGE

FROM THE

PRESIDENT OF THE UNITED STATES,

RECOMMENDING

AN ADDITIONAL APPROPRIATION OF $1,000,000 FOR THE MEAT-INSPECTION SERVICE OF THE DEPARTMENT OF AGRICULTURE.

APRIL 12, 1912.—Read, referred to the Committee on Agriculture, and ordered to be printed.

To the Senate and House of Representatives:

The Secretary of Agriculture, with my consent, has sent, through the Secretary of the Treasury to the Congress an estimate for an appropriation of $1,000,000 beyond the present permanent appropriation for the meat-inspection service in the Department of Agriculture. The increase is necessary to enable the department to inspect microscopically the flesh of hogs that is to be converted into meat food products which ordinarily are eaten without cooking. Several deaths have resulted from eating such products which contained trichinæ. The Swiss minister is now seeking reparation on account of the deaths and serious illness of several citizens of Switzerland. These deaths and serious illnesses are claimed to have been caused by eating American meat which contained trichinæ. The Department of Agriculture has issued warning circulars and caused notices to be printed in the newspapers of the country concerning the danger of eating such uncooked products. The microscopic inspection of the flesh of all hogs would require an increase of $4,000,000 in the appropriation. This is not deemed necessary. There is ample authority in the meat-inspection act to make the microscopic inspection, but no money has ever been provided. Therefore I urge upon the Congress the appropriation of $1,000,000 for this purpose, on the ground that the emergency demands such action.

WM. H. TAFT.

THE WHITE HOUSE, *April 12, 1912.*

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 708.

RIGHT OF ACTION UNDER CAPTURED AND ABANDONED PROPERTY ACT.

LETTER

FROM

THE SECRETARY OF THE TREASURY,

CALLING ATTENTION TO

H. R. 16820, A BILL TO REVIVE RIGHT OF ACTION UNDER CAPTURED AND ABANDONED PROPERTY ACTS, ETC., AND RECOMMENDING THAT SECTION 4 BE STRICKEN FROM THE BILL.

APRIL 20, 1912.—Referred to the Committee on War Claims and ordered to be printed.

TREASURY DEPARTMENT,
OFFICE OF THE SECRETARY,
Washington, April 17, 1912.

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

SIR: My attention has been called to H. R. 16820, "A bill to revive the right of action under the captured and abandoned property acts, and for other purposes," favorably reported from the Committee on War Claims and now on the Union Calendar as No. 170.

Section 1 provides that the right of action be vested in the legal representatives of the original owner, if deceased, in the courts of the United States, under the provisions of the captured and abandoned property acts, which are to be revived for two years after the passage of the bill, without regard to the limitation in said acts.

Section 4 of the bill requires all departments of the Government to furnish to claimants or counsel of the United States, in any and all claims filed by virtue thereof, copies, duly certified under seal of the department, of any and all papers or documents in the custody of the department in respect to said claims and which contain evidence in support or defense thereof.

This is an unusual provision, and proposes to reverse the general rule of statutory law applicable to the production of evidence in other cases pending in the Court of Claims as contained in section 1076 of the Revised Statutes of the United States, which has been

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reenacted as section 164 of the judicial code, approved March 3, 1911, as follows:

> The said court shall have power to call upon any of the departments for any information or papers it may deem necessary, and shall have the use of all recorded and printed reports made by the committees of each House of Congress, when deemed necessary in the prosecution of its business. But the head of any department may refuse and omit to comply with any call for information or papers when, in his opinion, such compliance would be injurious to the public interest.

This provision has been in force since the establishment of the Court of Claims under the act of February 24, 1855 (10 Stat., 614), and it is not known that the court or claimants have experienced any difficulty in securing from the departments necessary information and papers of record, or that there has been any abuse of the discretion given to heads of departments to refuse or omit to comply with calls for information or papers when, in their opinion, such compliance would be injurious to the public interests.

The provisions in section 4 of the bill in effect substitutes the discretion of the claimant's attorney for that of the head of a department, and the inevitable result will be to cause copies to be demanded of great numbers of papers of which many would be without value as evidence, and prepared at a very considerable expenditure of time and clerical labor, and requiring an increased force to perform the work if serious interference with important current work is to be avoided.

It tends also to make of these claims a preferred class, in that information or papers relating to them may be obtained from the departments without an order of the court as in other claims cases, thereby divesting the court of its supervisory powers and the heads of departments of the discretion authorized under existing law.

For the foregoing reasons I am of the opinion that section 4 of said H. R. 16820, if enacted into law, would nullify existing safeguards against the prosecution of fraudulent claims, lead to abuses of the privilege granted to claimants, is contrary to public policy, and would be injurious to the public interests.

Respectfully,

FRANKLIN MACVEAGH,
Secretary.

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62D CONGRESS, 2d Session } HOUSE OF REPRESENTATIVES { DOCUMENT No. 714

HYDRO ELECTRIC CO.

RECORD IN THE CASE OF UNITED STATES OF AMERICA v. HYDRO ELECTRIC CO. IN THE UNITED STATES CIRCUIT COURT, NORTHERN DISTRICT OF CALIFORNIA

MARCH 18, 1912.—Ordered to be printed with illustrations

WASHINGTON
GOVERNMENT PRINTING OFFICE
1912

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IN THE HOUSE OF REPRESENTATIVES,
March 18, 1912.

Ordered, That the record in the case of United States of America *v.* Hydro Electric Co., in the United States Circuit Court, Northern District of California, be printed as a House document.

Attest:

SOUTH TRIMBLE, *Clerk.*

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HYDRO ELECTRIC CO.

COMPLAINT.

In the Circuit Court of the United States, Ninth Circuit, Northern District of California. United States of America, complainant, *v.* The Hydro Electric Power Co., a corporation, defendant.

To the judges of the Circuit Court of the United States for the Ninth Circuit, Northern District of California:

George W. Wickersham, Attorney General of the United States, and Robert T. Devlin, United States attorney for the northern district of California, for and on behalf of the United States of America, complainant, bring this bill against the Hydro Electric Power Co., a corporation, a citizen and resident of the State and northern district of California, and shows:

I.

The Hydro Electric Power Co., defendant herein, is and at all times herein mentioned was a corporation duly incorporated, organized, and existing under the laws of the State of California.

II.

That said defendant is also known by the name of Hydro Electric Co.

III.

That the complainant is and at all the times herein mentioned was the owner of and entitled to the possession and exclusive use of all the following-described lands:

The S. ½ of the NE. ¼ and the NE. ¼ of the NE. ¼ of sec. 14, T. 2 N., R. 25 E., M. D. B. and M.

That all the said lands are located within the Mono National Forest Reserve, which said reserve is and at all the times herein mentioned was a forest reserve of the lands of the United States duly and regularly established by the President of the United States and the officers of the Department of the Interior of the United States.

IV.

That the defendant the Hydro Electric Power Co. is incorporated for the purpose of conducting and running a power plant and generating and selling electric power; that the said defendant, in carrying out the purpose of its incorporation and transacting the business

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aforesaid, and for the purpose of generating power, intends to carry water from what is known as Lundy Lake, in section 16, township 2 north, range 25 east, M. D. B. and M., across and over said certain lands of this complainant to its power plant; that in so doing the said defendant intends to construct pipe lines, ditches, and flumes across the said lands of this complainant through which said waters of Lundy Lake are to be carried.

V.

That the said defendant, in pursuance of its aforesaid plans and intention, has already begun construction of pipe lines, ditches, and flumes along the intended route of said waterway from said Lundy Lake to said power plant; that the said defendant has no right whatsoever to the said lands of this complainant and no right to the use of the same, and has never received or obtained any permission of any kind, nor has any permission or authority of any kind ever been issued or granted to the said defendant by the Secretary of Agriculture of the United States or by any other officer of the United States or by your complainant at all to establish the said waterway or to construct the said pipe lines, ditches, and flumes across the said lands of your complainant.

VI.

That the said defendant disputes with your complainant its right and authority and the right and authority of the Secretary of Agriculture of the United States to require the obtaining of said permission and authority prior to and as a condition upon which the said waterway and the pipe lines, ditches, and flumes may be so established over the said lands of your complainant located within the said forest reserve as aforesaid.

That the said defendant contends and by and through its officers and agents has stated that the Secretary of Agriculture of the United States has not any authority whatsoever to require that the said defendant shall not so use the lands of this complainant so located within the said forest reserve unless permission and authority so to use the said lands shall have first been granted and issued by the said Secretary of Agriculture.

That the said defendant claims the right to so establish the said waterway over the said lands of this complainant and to construct thereon the said pipe lines, ditches, and flumes and to run water therein regardless of any rule or regulation of the Department of Agriculture of the United States duly promulgated and requiring that before the said lands of this complainant are so used, permission and authority to make such use shall first be obtained by the person seeking to make the said use thereof.

VII.

That the said defendant more than a month prior hereto began the actual construction of said pipe lines, ditches, and flumes along the said waterway and now has a large amount of material upon the ground and has the means provided for continuing, and the said

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defendant threatens with the said means so provided to continue the construction of said pipe lines, ditches, and flumes not only upon lands over which it has the right to establish the said waterway, but also upon the said lands of your complainant; that the said defendant has actually excavated the soil along the line of its said waterway and within the said lands of this complainant for a distance of about 100 feet with the object and intent of constructing across the said lands of your complainant the said waterway by means of constructing thereon pipe lines, ditches, and flumes; that the said defendant, unless restrained by this court, will continue so to construct the said pipe lines, ditches, and flumes along the said waterway and through and over the said lands of this complainant; that in so doing the said defendant threatens to and will, unless restrained by this court, commit waste upon the said lands by tearing up the soil and digging ditches thereon for the purpose of constructing said pipe lines and ditches to constitute a part of its said waterway; that said defendant intends to and will, unless restrained by this court, build flumes along the said waterway where it crosses the said lands of this complainant as well as construct its said pipe lines and dig said ditches as aforesaid and will, upon the completion of said pipe lines, ditches, and flumes over the said lands of your complainant, immediately begin, unless restrained by an order of this court, and thereafter continue to carry water through the same from said Lundy Lake to said power plant of the said defendant.

VIII.

That the said acts of the said defendant constitute and will constitute a nuisance upon the said lands of your complainant, and the said use so to be made of the said lands of your complainant will constitute a continuing trespass and nuisance, and to prevent the said use or to compensate this plaintiff for said use in actions at law would necessarily involve great multiplicity of suits.

IX.

That the said defendant desires to test the authority of your complainant by and through the said Secretary of Agriculture to require that it, the said defendant, shall obtain permission to construct the said ditches, pipe lines and flumes, and to establish the said waterway over the said lands of this complainant.

X.

That your complainant has at no time acquiesced in the threatened construction of the said pipe lines, ditches, and flumes across the lands of your complainant, but has at all times notified the said defendant and its officers and agents that under no condition would the construction of the said pipe lines, ditches, and flumes, and the said waterway over the said lands of your complainant be permitted, unless authority and permission so to construct the same was first obtained from the Secretary of Agriculture of the United States.

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That in defiance of the said notification and in defiance of the said right of the said Secretary of Agriculture so to require the obtaining of the said permission and authority, said defendant threatens and will, unless restrained by this court, continue to construct the said waterway by means of the said pipe lines, ditches, and flumes over the said lands of your complainant.

That before this action can be brought on for hearing or determination, the said defendant, unless restrained by an order of this court, will have carried out and completed their said intended work of constructing the said waterway by means of said pipe lines, flumes, and ditches across the said lands of this complainant, and that if an injunction is not issued forthwith or preliminarily in this cause and pending the determination of the same, the final and ultimate object of this suit will be defeated.

XI.

Forasmuch as your orator can have no adequate relief, except in this court, and to the end, therefore, that the defendant may, if it can, show why your orator should not have the relief prayed and may make a full disclosure and discovery of all the matters aforesaid, and according to the best and utmost of its knowledge, remembrance, information, and belief, full, true, direct, and perfect answer make to the matters hereinbefore stated and charged.

Wherefore, your orator prays:

1. That pending the determination of this cause, the court issue its order restraining the defendant from proceeding in any manner with the construction of any waterway or pipe lines, ditches, or flumes across, over, and upon the lands in this bill of complaint described.

2. That defendant be permanently enjoined from committing any of the said acts.

3. That complainant have such other and further relief as may be proper.

May it please the court to grant to the United States of America the writ of subpœna issuing out and under the seal of this honorable court directed to the defendant the Hydro Electric Power Co., a corporation, on a day certain, to be named therein, to be and appear before this honorable court to answer all and singular the premises, and to stand and abide by such other orders, directions, and decrees as may be made therein.

———— ————,
Attorney General of the United States.

ROBT. T. DEVLIN,
United States Attorney for the Northern District of California.

———— ————,
Assistant United States Attorney for the Northern District of California, Solicitors for Complainant.

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DEMURRER.

In the Circuit Court of the United States, Ninth Circuit, Northern District of California. United States of America, complainant, *v.* Hydro Electric Co. (a corporation), defendant.

The demurrer of Hydro Electric Co., defendant.

Said defendant, by protestation, not confessing or acknowledging all or any of the matters or things in said complainant's bill contained to be true, demurs thereto; and for cause of demurrer shows:

I.

The said bill of complaint does not state facts sufficient to constitute any cause of action against said defendant, or to entitle complainant to the relief prayed for, or to any relief.

Wherefore, and for divers other causes of demurrer appearing in said bill, said defendant prays the judgment of this honorable court whether it shall be compelled to make any further or other answer to said bill, and prays to be hence dismissed with its costs herein.

CAMPBELL, METSON, DREW,
OATMAN & MACKENSIE,
BRENNAN & LANE,
Attorneys for Defendant.

I, E. A. Lane, one of the attorneys for the defendant above named, hereby certify that, in my opinion, the cause of said demurrer is well taken and ought to be sustained.

E. A. LANE.

ANSWER.

In the Circuit Court of the United States, Ninth Circuit, Northern District of California. United States of America, complainant, *v.* Hydro Electric Co. (a corporation), defendant.

Answer of Hydro Electric Co., a corporation, the defendant, to the bill of complaint of the United States of America, complainant.

This defendant now and at all times saving and reserving to itself all benefit and advantage of exception to the many errors, uncertainties, imperfections, and insufficiencies in the complainant's said bill of complaint contained, for answer thereto, or to so much and such parts thereof as this defendant is advised it is material or necessary for it to make answer to, says:

1. Admits that it is and at all times in the bill of complaint mentioned was a corporation duly incorporated, organized, and existing under the laws of the State of California, and in this connection, alleges:

That it now is and at all times in said bill of complaint alleged has been by its articles of incorporation, among other things, empowered to appropriate, acquire, purchase, lease, condemn, hold, possess, sell, grant, convey, and assign watersheds, water sources, and the right to the use of running water flowing in rivers and streams.

To acquire, purchase, erect, construct, sell, equip, operate, and maintain any and all aqueducts, flumes, tunnels, pipes and pipe lines,

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reservoirs, dams, ditches, and other means necessary to convey or store water, and the sites therefor.

To hire, purchase, sell, construct, equip, operate, and maintain pumps and pumping plants, electric lighting and power plants and all the necessary appurtenances thereto, and to use the power product and output thereof in its own business and to transmit, lease, hire, distribute, and sell the same.

To secure rights of way and franchises of any kind or nature and to exercise all the rights and privileges connected therewith.

To engage in the business of mining, milling, and the reduction of ores, in the irrigation and farming of lands and in the furnishing of water for the irrigation of lands owned by itself and others, and to do and perform any and all acts and transactions necessary or proper to the furtherance of attainment of the purposes above set out, or any of them, or incidental thereto.

2. Admits that it is known by the name of Hydro Electric Co., which, it alleges, is its true name.

3. Denies that complainant is or at the time of the filing of the bill of complaint herein mentioned was the owner of, or in possession of, or entitled to the possession of or to the exclusive or any use of the lands in said bill of complaint mentioned and described.

Admits that said lands are located within the exterior boundaries of that certain alleged forest reserve known and designated as the Mono National Forest Reserve, but denies that said lands were duly or regularly or lawfully included within said forest reserve by the President of the United States or the officers of the Department of the Interior of the United States, or otherwise, and in this connection alleges that said lands are neither wholly nor in part covered with either timber or undergrowth, and are not such lands as are capable of forestation, and are not more valuable for forestation than any other purposes, but that said lands are, on the contrary, arid and desert, without vegetation other than scant and occasional bunches of sagebrush, and alleges that the same and adjoining public lands for miles are of the same character and lie wholly and entirely within a well-defined and well-known mineral belt and zone, and are not, nor ever have been, nor are the adjoining lands for many miles, such lands as might or could, under the acts of Congress in that behalf made and provided, be lawfully or at all included within the national-forest reserve.

4. Admits and alleges that it is incorporated, among other purposes, for that of conducting and running a power plant and generating and selling electric power, and that, in carrying out some of the purposes of its incorporation and business and for the purposes of generating power, it intends to and is carrying water from "Lundy Lake" over the lands in said bill of complaint mentioned and described to a power plant belonging to it.

5. Admits and alleges that in pursuance of its plans and intention it had begun the construction of, and has constructed, a pipe line to convey the waters from Lundy Lake to its power plant, as hereinbefore alleged; but denies that it was without right so to do, and denies that it is without right to the use of the said lands in said complaint mentioned and described, and denies that it has never received or obtained permission for such use of said lands, and denies that no permission or authority of any kind had at the time of the filing of

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the bill of complaint herein been issued or granted to it by the Sectary of Agriculture of the United States, or by any other officer of the United States, or by the United States, to establish the said waterway or to construct the said pipe lines across said lands in said bill of complaint mentioned and described; and in this connection alleges that at and prior to the time of the filing of the bill of complaint herein mentioned defendant was rightfully and lawfully upon the lands in controversy and had the lawful right to the use thereof and had been granted, and had received and accepted, permission so to cross and use said lands by the complainant, the United States, and by its agents and officers thereunto authorized, under rules and regulations by them promulgated, and that it has constructed its pipe line across the lands in question in full accordance with the terms and conditions of general rules and regulations upon this subject promulgated by the Secretary of Agriculture.

6. Admits that it disputes with complainant the right and authority of the Secretary of Agriculture of the United States to require the obtaining of permission and authority prior to and as a condition upon which the said waterway and pipe line may be established over the said lands in said bill of complaint mentioned and described.

Admits that it contends, and by and through its officers and agents has stated, that the Secretary of Agriculture of the United States has not any authority whatsoever to require that it shall not so use the said lands in the said bill of complaint mentioned and described unless permission and authority so to do shall have first been granted and issued by the said Secretary of Agriculture.

Admits that it claimed and does now claim the right to establish said waterway and pipe lines over said lands and to run water therein, as it is and has been doing regardless of any rule or regulation of the Department of Agriculture of the United States duly, or otherwise, promulgated.

7. Admits that a long time prior to the filing of the bill of complaint herein mentioned and described, it had begun the actual construction of a ditch line across said lands and the actual construction of said pipe line, and that it had large amounts of material upon the said lands for construction purposes and for the construction of said pipe line, and alleges that it constructed said pipe line across said lands, and that at the time of the filing of said bill it had actually excavated all the soil along said pipe line across the land in dispute, and that it has constructed said ditch and pipe line, and it is carrying and conveying and intends to continue to carry and convey through said pipe line across the lands mentioned and described, the water of Lake Lundy to its said power plant. Defendant further alleges that said pipe line was fully and completely finished and constructed under agreements, stipulations, and compositions of the parties hereto, and denies that it ever has intended or threatened to commit any waste upon said lands, or that it ever has committed said or any waste thereon by tearing up the soil or digging ditches thereon, or otherwise.

8. Denies that the laying of said pipe line upon said lands constitutes, or will constitute, a nuisance or a continuing trespass and nuisance upon said land; and denies that a great, or otherwise, multiplicity of suits at law would be necessary to prevent said use or to compensate complainant.

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9. Denies that it desires to test the authority of complainant by and through its Secretary of Agriculture, to require it to obtain permission to construct or maintain the said pipe line and establish said waterway over the said lands mentioned and described in the bill of complaint herein filed, and in this connection alleges that it fully and entirely admits the right of complainant to deal with its own land in such manner as it shall be advised, but denies that complainant has delegated to the Secretary of Agriculture any rights, authority, or prerogatives in the premises.

10. Denies that complainant has at no time acquiesced in the construction of said pipe line across said lands, and denies that complainant has, through its proper and lawful agents, or otherwise, than through certain agents and employees of the Forestry Bureau of the Department of Agriculture, notified defendant or any of its employees that the proposed and intended construction of said pipe line across the said lands in said bill of complaint mentioned and described would not be permitted unless authority and permission so to construct the same was first obtained from the Secretary of Agriculture of the United States.

Denies that it is acting in defiance of any rule or regulation promulgated by the Secretary of Agriculture, requiring any permission to construct said pipe line over the aforesaid lands, but admits that, at the time of the filing of the bill of complaint herein, it was acting, and until restrained, continuing to act in defiance of notifications to it made by employees and agents of the Forestry Bureau of the Department of Agriculture.

Denies that complainant has no plain, speedy, or adequate remedy at law, and denies that the rights of complainant, if any it has, can not be as fully, adequately, and completely protected in an action at law as in a suit in equity.

And further answering the bill of complaint herein filed, defendant alleges:

1. That at the time of all the acts in said bill complained of, and prior thereto, defendant and its grantors and predecessors in interest were, and ever since have been, the owners in fee of the lands intended and proposed to be and crossed by said pipe line and entitled to the exclusive right of possession thereof, and at all of said times defendant and its grantors and predecessors in interest have been, and now are, in the actual physical possessio pedis of said lands, exercising acts of dominion and control thereover and claiming title thereto as against complainant and all others.

2. That at the time of all the acts complained of in said bill, and prior thereto, defendant and its grantors and predecessors in interest were, and ever since have been, the owners in fee under and by virtue of valid and subsisting mining locations duly and regularly had under the mineral laws of the United States of the lands proposed and intended to be and crossed by said pipe line, and as such owners of said lands at all of said times were entitled to the sole and exclusive right of use and enjoyment thereof, and at all of said times have been, and now are, in the actual and physical possessio pedis thereof, claiming title thereto as against complainant and all others.

3. That prior to the acts complained of in the bill herein filed, complainant set over, assigned, conveyed, and granted unto defendant a right of way and easement in and across the lands in said bill of

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complaint mentioned and described, for the uses and purposes for which defendant intended and proposed to, and afterwards did, construct said pipe line.

4. That prior to all the acts complained of the bill herein filed, complainant granted to defendant the irrevocable license and privilege to cross the lands in said bill of complaint mentioned and described with said pipe line, for the uses and purposes for which said pipe line was intended and proposed to be, and afterwards in fact, constructed.

5. That prior to all acts in said bill complained of, complainant granted to defendant a license and privilege to cross the lands in said bill mentioned and described with its pipe line, for the uses and purposes for which said pipe line was intended and proposed to be, and afterwards in fact was constructed, and said complainant has never canceled, annulled, or revoked said privilege or license.

6. That prior to the year 1880 and long prior to the creation of the Mono National Forest Reserve or any other forest reserve, purporting to include within its exterior boundaries the land mentioned and described in the bill of complaint herein filed, complainant assigned, set over, conveyed, and granted unto the grantors and predecessors in interest of defendant a right of way and easement over and across the lands in said bill of complaint mentioned and described for the same uses and purposes for which said right of way is now used and sought to be used by defendant and in pursuance of said grant, and under the terms and conditions thereof and long prior to the inclusion of said lands within any forest reservation defendant's grantors and predecessors in interest constructed and maintained across said lands a water conduit for the uses and purposes for which said conduit is now used and sought to be used by defendant, and ever since the construction of said conduit by defendant's grantors and predecessors in interest have been in the actual, physical possessio pedis possession of said right of way covered by said conduit, claiming the exclusive right of possession thereto and the exclusive right of use and enjoyment thereof and title thereto as against complainant and all others.

7. That under and by virtue of its articles of incorporation defendant is a public utility corporation, with full and ample right and power of condemnation of private property for a public use upon payment of a just compensation. That the purpose for which said pipe line was laid over the lands mentioned and described in the bill of complaint herein filed is, among other things, that of generating electric power to be used in the lighting of the towns of Bodie, Aurora, and Lucky Boy and to be sold to the owners and operators of mining claims in and around said towns for the operation of said mines. And said pipe line has in fact been laid over and across said lands, and the water therethrough conveyed has been and now is for use and applied, among other things, to the purposes last aforesaid.

8. That the pipe line mentioned and described in the bill of complaint herein filed, the construction of which it is herein sought to enjoin and which has been fully and completely constructed and finished, lies wholly within the exterior boundaries of certain mines and mining claims regularly and duly located by defendant and its grantors and predecessors in interest, and the purposes for which said pipe line was constructed and for which its continued use and main-

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tenance is sought are, among other things, to operate, prospect, develop, and mine the aforesaid mining claims upon which said pipe line now is constructed and upon which it is intended hereafter to be maintained, and said pipe line is necessary for the actual prospecting, developing, operation, and mining of said claims.

9. Defendant is advised and therefore alleges that being in actual, open, notorious, and exclusive possession of the lands covered and traversed by said pipe line, under claim of title thereto as against complainant and all others, and inasmuch as at all the times in said bill of complaint mentioned it was and ever since has been exercising acts of dominion and control over, in, and upon the said lands crossed and traversed by said pipe line as aforesaid, it is entitled, under the seventh amendment to the Constitution of the United States, to the right of trial by jury as to the matters and things at issue between complainant and itself, and that the above-entitled honorable court is without jurisdiction upon its equity side, under said provision of the Constitution of the United States, to grant the relief in said bill of complaint prayed for, and in this connection said seventh amendment to the Constitution of the United States is hereby specially pleaded in bar of the right of complainant to the relief herein sought.

10. Defendant alleges that it was at all of the times in the bill of complaint mentioned and long prior thereto in the actual, open, notorious, adverse, and exclusive possession of all of the lands covered and traversed by said ditch and pipe line described in said bill of complaint and was at all of said times in the said actual, open, adverse, notorious, and exclusive possession under claim of title thereto as against the complainant and all others.

Defendant further alleges that inasmuch as it was at all of the times in said bill of complaint mentioned, and ever since continuously has been, exercising exclusive acts of dominion and control over, in, and upon the said lands crossed and traversed by said ditch and pipe line as aforesaid, it is entitled under the seventh amendment to the Constitution of the United States to the right of trial by jury as to the matters and things at issue between the complainant and itself, and further alleges that the above-entitled honorable court is without jurisdiction herein to grant the relief in said bill of complaint prayed for, and in this connection said seventh amendment to the Constitution of the United States is hereby specially pleaded in bar of the right of complainant to the relief herein sought.

11. This defendant further pleads to said bill of complaint and alleges that the said complainant has at no time commenced an action at law against this defendant and that there is not now pending and that there never has been an action at law commenced in any court by the said complainant against this defendant, and that therefore no bill in equity can prevail in this honorable court, and that for the reasons above stated this bill of equity can not be maintained in this honorable court because the said bill is not ancillary to an action at law in this or any other court.

And this defendant denies all and all manner of unlawful combination and confederacy wherewith it is by the said bill charged; without this there is no other matter, cause, or thing in said complainant's said bill of complaint contained material or necessary for this defendant to make answer to and not herein and hereby well and sufficiently answered, confessed, traversed, and avoided or denied, is true, to the knowledge or belief of this defendant; and denies that this complain-

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ant is entitled to any injunction or any other relief whatever because of anything in said bill of complaint; and submits for the reasons hereinbefore stated and set forth that the complainant is not entitled to any relief whatsoever against this defendant.

All of which matters and things this defendant is ready and willing to aver, maintain, and prove as this honorable court shall direct: and humbly prays to be hence dismissed with its reasonable costs and charges in this behalf most wrongfully sustained.

HYDRO ELECTRIC CO.

Attest:
[SEAL.]

W. N. CHATFIELD,
Assistant Secretary and Treasurer.

METSON, DREW & MACKENZIE,
E. A. LANE,
ALBERT FINK,
Solicitors for Defendant.

UNITED STATES OF AMERICA,
State of California, County of Mono, ss:

W. N. Chatfield makes solemn oath and says: That he is an officer, to wit, assistant secretary of the Hydro Electric Co., the corporation defendant in the above-entitled action. So much of the foregoing answer as concerns the acts and deeds of the said defendant corporation is true to the best of my own knowledge, and so much thereof as concerns the acts or deeds of any other person or persons I believe to be true.

W. N. CHATFIELD.

Sworn to before me this 17th day of June, 1911.

[SEAL.] A. LAZARD,
Notary Public in and for Mono County,
State of California.

No. 15210. In the Circuit Court of the United States, Ninth Circuit, Northern District of California. United States of America, complainant, *v.* Hydro Electric Co. (a corporation), defendant.

Replication to answer and plea of Hydro Electric Co.

This replicant, saving and reserving to itself all and all manner of advantage of exception which may be had and taken to the manifold errors, uncertainties, and insufficiencies of the answer and plea of said defendant, for replication thereunto saith that it does and will ever maintain and prove its said bill to be true, certain and sufficient in the law to be answered unto by said defendant, and that the answer and plea of said defendant is very uncertain, evasive, and insufficient in the law to be replied unto by this replicant; without this, that any other matter or thing in the said answer and plea contained material or effectual in the law to be replied unto, and not herein and hereby well and sufficiently replied unto, confessed or avoided, traversed or denied, is true; all which matters and things this replicant is ready to aver, maintain, and prove as this honorable court shall direct, and humbly as in and by its said bill it has already prayed.

ROBT. T. DEVLIN,
United States Attorney, Solicitor for Complainant.

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In the Circuit Court of the United States, Ninth Judicial Circuit, Northern District of California. United States of America, plaintiff, *v.* Hydro Electric Co., defendant.

Tuesday, September 6, 1910, Wednesday, September 7, 1910, Friday, September 9, 1910.

Reference to Hon. H. M. Wright to take testimony and pass upon the question as to whether a preliminary injunction should issue.

(Clement Bennett, United States Official Reporter.)

Appearances: George Clark, Esq., assistant United States attorney for the United States; J. C. Campbell, Esq., and E. A. Lane, Esq., for the defendant.

The MASTER. The testimony in this case will be taken by Mr. Bennett, and an order will be made that the cost of the original transcript be divided. Will you state for my information, Mr. Clark, the nature of the proceedings?

Mr. CLARK. The nature of the proceedings is this: The Government owns certain land which is described in paragraph 3 of the complaint, the south half of the northwest quarter of section 14, and the northeast quarter of the northeast quarter of section 14, township 2 north, range 25 east, Mount Diablo meridian. This land is now a part of the Mono National Forest Reserve. It was placed in the reserve some time prior to the commencement of this action. The defendant, the Hydro Electric Co., is a corporation, and it is seeking to establish and maintain a pipe line across and over this tract of land.

The Government takes the position that the defendant has no right whatsoever to cross the land with its pipe line or with any ditch or flume, to be used for the purpose of running its power plant and generating power or for any other purpose; that the Government is the owner of the property, and the defendant threatens to go on it and construct its pipe line and its ditches upon the land of the Government without any right and in defiance of the rules and regulations of the Department of Agriculture, under which department the national forests are run.

I think that statement will suffice to explain the exact position here.

From the affidavits I gather that it is the position of the defendant in the case that it has established upon these lands and owns certain mineral locations; that the ditch has already been dug; that the damage will not be great; that the power will be of advantage to it and to those engaged in mining; and that it will enable mining operations which otherwise could not be carried out. I will state that some reference is made in the affidavits to a ditch called the Old Golito Mining Ditch.

Mr. LANE. That is the dotted ditch.

Mr. CLARK. I do not know what these gentlemen will seek to establish with reference to that ditch. The position of the Government is that if there ever was a ditch there it was abandoned about 1902 or earlier than that.

The MASTER. Have any admissions been made by the parties as to any of the facts?

Mr. CLARK. Just as soon as this witness is sworn I will take that up.

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H. P. DECHANT called for the United States; sworn.

Mr. LANE. Before the witness testifies, I desire to make the objections against the introduction of any evidence by the complainant in this case upon the ground that the bill of complaint utterly fails to state any cause of action; utterly fails to state any rule or allege any rule or regulation of the Department of Agriculture; utterly fails to allege that the promulgation of any such rule or the approval thereof.

The MASTER. I overrule the objections and you can note your exceptions.

Mr. LANE. We will take an exception.

Mr. CLARK. It will be admitted, I presume, that the defendant is a corporation duly incorporated, organized and existing ever since May 12, 1910.

Mr. LANE. That is correct.

The MASTER. A corporation of California?

Mr. LANE. Yes.

Mr. CLARK. Will it be admitted that the Government owns the land described in paragraph 3 of the complaint?

Mr. LANE. It will be admitted that the Government owns the legal title, but with this qualification, that it holds the same in trust for the defendant corporation in this case under the mining laws of the United States.

Mr. CLARK. We have here, Mr. Lane, a certified copy of the plat book of the proper land office showing the status of this land in the Land Office, the status of the land with respect to its being public or private. I am going to offer that to show it is public land, and you have no legal title yet.

Mr. LANE. We have just admitted that; that as far as the Land Office records will show the title is clear in the United States.

Mr. CLARK. I have this certified copy here and I will put it in as "Government's Exhibit No. 1."

Mr. LANE. It may not be very material, but that is not legal evidence. It is not certified under seal at all.

The MASTER. I do not see it will show anything more than what you have admitted already, that it is Government land, if you have got a mineral location on it.

Mr. CLARK. I am accepting his admission, but I want that in.

(The certified copy is marked "Government's Exhibit No. 1.")

I have a certified copy of the plat book and I thought I would just offer it, too. This shows the land to advantage.

Mr. LANE. That is not certified either, but there will not be any objection made.

The MASTER. Do you offer that last document?

Mr. CLARK. Yes.

The MASTER. Let it be admitted as Government's Exhibit No. 2. Have you any objection to it, Mr. Lane?

Mr. LANE. I should like an informal objection with an exception to the ruling.

The MASTER. Let your objection be noted. The document will be admitted and an exception taken.

(The certified copy of the plat book is marked "Government's Exhibit No. 2.")

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By Mr. CLARK:

1. Q. Mr. Dechant, what position do you hold?—A. Law officer in the Forest Service.

2. Q. How long have you been such?—A. Since February, 1909.

3. Q. You are acquainted with the circumstances of this case, in a measure?—A. Yes, sir.

4. Q. Do you know in what forest reserve this particular tract of land is located?—A. Yes, sir; the Mono National Forest.

5. Q. When was the first order made that had any bearing upon the establishment of the forest reserve which includes this land?—A. It was made in January, 1904, a withdrawal by the Secretary of the Interior, withdrawing the land for forest purposes.

6. Q. Then what followed?—A. Then the forest was established. This particular tract in question was included within the Stanislaus National Forest in September, 1906, and there was also a further proclamation enlarging the area of the Stanislaus again including this land in that area of October, 1907. I do not remember the exact days of the month. Then on July 1, 1908, the President, by Executive order, created Mono National Forest out of several other forests in that vicinity, among which was the Stanislaus, the Sierra, and some others, I don't remember the names; that this land be taken out of the Stanislaus and by that order incorporated in the Mono National Forest. Then by a further proclamation again reestablishing the Mono National Forest this land was again included, proclamation of March 2, 1909.

7. Q. Just explain to the court the meaning of that first order that was made with respect to this land; what was its object and effect. I am calling for a legal conclusion in regard to this. I am simply doing this to save time.

Mr. LANE. Why not let us admit that was withdrawn preliminarily and was afterwards regularly proclaimed by the President of the United States under the act of March 3, 1901, to be a national forest reservation? I think that will cover it.

By Mr. CLARK:

8. Q. That is a fact, is it, Mr. Dechant?—A. Yes.

Mr. CLARK. We will take that admission.

The WITNESS. That is, Mr. Lane admits it was withdrawn from all forms of entry by the order of the Secretary of the Interior.

Mr. LANE. Except mineral land.

The WITNESS. The withdrawal for forest purposes withdrew it from all forms of entry until it was established as a national forest. Then it was open to mineral entry.

Mr. CLARK. That is a legal question.

Mr. LANE. I think that is not the fact.

By Mr. CLARK:

9. Q. These lands were withdrawn by the Secretary of the Interior?—A. Yes, sir.

10. Q. That the lands are not then open to any form of entry even for mineral purposes?—A. Yes, sir.

11. Q. Pending a determination of the question as to whether they shall be finally included in the forest reserve?—A. Or remain public lands.

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12. Q. It is also a fact after lands are placed in a national forest they are not subject to ordinary forms of entry, although they are subject to mineral location if mineral is discovered?—A. And entries under the act of June 11, 1906, which is called the forest homestead law.

13. Q. Now, Mr. Dechant, do you know, as the law officer, whether any effort was made by the defendant, through its officers, to obtain leave to cross this land of the Government before this suit was begun?

Mr. LANE. That ought to be a yes or no answer.

A. I shall have to explain.

By Mr. CLARK:

14. Q. Answer yes or no.

The MASTER. And then explain.

A. Yes, sir.

By Mr. CLARK:

15. Q. Were any proceedings of any kind had—answer that yes or no—that you know of for the purpose of obtaining permission of the Government to cross this land with a pipe line or ditch?—A. No, sir.

16. Q. How long before this bill of complaint was filed was it that you became aware of the fact that the defendant was desirous of crossing this land by a ditch and pipe line?

Mr. LANE. That is objected to. It is not shown that the witness knew anything at all about the matter. He has not qualified that he knows; as a matter of fact, he does not.

The MASTER. I overrule the objection.

Mr. LANE. We will take an exception.

A. Will you read the question?

(The reporter reads the question.)

Mr. LANE. In that connection perhaps you may not have in mind the fact that Mr. Dechant is located here in San Francisco, 150 miles away, and that he has not shown that the defendant came to him or that he knew anything about it, and there is not any foundation for any knowledge at all on the subject.

The MASTER. It will go in just in that way and with just that much weight.

Mr. LANE. Very well.

By Mr. CLARK:

16. Q. Did any of the officers call at your office in San Francisco with reference to this matter?—A. None of these officers, unless you speak of Mr. Lane as an officer of the company.

17. Q. That is exactly what I was getting at. Mr. E. A. Lane did call at your office some time before the bill of complaint was filed?—A. Yes, sir.

18. Q. How long was it before?—A. According to the best of my recollection it was the latter part of May or the first part of June.

19. Q. Of this year?—A. Of this year.

Mr. CLARK. I want to go into that a little. I think some point is going to be made that the Government did not assert its rights promptly in this matter.

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20. Q. Whom did Mr. Lane state that he represented?—A. He said that he represented—probably I had better explain first how I came to speak to him about it. Mr. Maul wrote to me that a certain company was going to build a pipe line.

Mr CLARK We admit that it is not the best evidence

Mr. CAMPBELL. That is all hearsay.

Mr. CLARK. We admit that.

21. Q. Go ahead and tell what you discussed with Mr. Lane.—A. I spoke to him about it and asked him if he represented that company, which I understood he did. He told me that Mr. Metson had spoken to him about representing the company, but he was not sure whether he would be retained.

Mr. CLARK. That may all go out.

22. Q. What I want to get at is the subject at that time. If not at that time, when was the first discussion between yourself and Mr. Lane with respect to their obtaining a right of way across this land for a pipe line and ditch?—A. That was along in the first part of June; that is when I asked Mr. Lane whether they were going to consent to take out a permit or whether a civil suit would have to be brought to determine the rights of the parties thereto.

23. Q. At that time did Mr. Lane appear to represent the defendant in the case? A. Yes.

Mr. CAMPBELL I object to that, as to what he appeared to do.

By Mr CLARK:

24. Q. Did he state he did?

Mr. CAMPBELL. We object to that.

A. I don't remember that he said he came in respect to the Hydro Electric Power Co. or the Hydro Electric Co.

Mr. CAMPBELL. We object to that.

Mr. CLARK. We consent that that may go out.

25. Q. What I want, Mr. Dechant, is the discussion between yourself and Mr. Lane the first time in which Mr. Lane did say he came to talk to you about the Hydro Electric Co. and in which the obtaining of a permit was discussed between you two men.

Mr. CAMPBELL. I understand we have to save all these exceptions. You can not prove agency by the declaration of the agent. You must prove it by some independent fact.

Mr. CLARK. I will call Mr. Lane later. I had an idea that he would admit it.

Mr. LANE. You have not asked for any admission.

Mr. CLARK. I had an idea you would when I commenced asking these questions.

Mr. LANE. All this practically could be admitted.

Mr. CLARK. When did you first represent the company in your discussion or talks with Mr. Dechant, the law officer of the forest reserve?

Mr. LANE. According to my best recollection, I did not represent the company till—I had no talk with Mr. Dechant after I had been retained by the company in this case until after the threats of arrest were made by the forest officer, which was about one week prior to the commencement of the suit.

Mr. CLARK. Will you admit that while yet uncertain as to whether you would be their representative in this matter, you did talk with Mr. Dechant about the obtaining of a permit, and that subsequent to

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those talks you did confer with the attorney or officials of the Hydro Electric Co. and explain to them the position of the Government in this matter; that the Government's position was that you had no right and had to obtain a permit to cross the land?

Mr. LANE. I would admit it if it was true. I think it is not. My first conference with Mr. Dechant was at his request. He came to me for advice. I told him at once I had informally advised with the defendant, but was not retained and could not advise him on the other side.

Mr. CLARK. Will you admit you explained the Government's permission with respect to your right to cross this land by the 1st day of June, 1910?

Mr. CAMPBELL. We object to that. It would not make any difference what the Government's position was. It is a question of law and a question of equity as to what the rights were. Any explanation that the officer or attorney for the company might say could not change the status.

Mr. CLARK. No; but between the time of Mr. Lane's talk, as I understand, and the commencement of this suit they did get this ditch dug. We claim thay had full notice that the department considered they must get a permit to cross this land.

Mr. LANE. We might put that on this ground, not that there is any laches to impute to the Government. I consider it well-settled law that laches can not hardly ever be imputed to the Government. The fact set forth in the affidavits is merely and solely for the purpose of showing that the continuation of the work after the commencement of the suit would not work any damage to the Government.

The MASTER. If there is anything before me to rule on I have forgotten it.

Mr. CLARK. That is all I have to ask Mr. Dechant.

Cross-examination by Mr. LANE:

1. X Q. Mr. Dechant, is it your opinion, as a law officer, that the mineral laws of the United States are not in full force and effect with reference to national-forest lands?—A. No, sir; I do not take that position.

Mr. LANE. That is all.

The WITNESS. Might I explain that?

The MASTER. I should like to know what the issue between you on that point, as I understand it, is. The defense is that during the period of the Secretary's withdrawal they were likewise open to mineral location, and the Government claims they were not so.

The WITNESS. That is the temporary withdrawal.

By the MASTER:

2. X Q. During the time of the temporary withdrawal by the Secretary of the Interior?—A. After the proclamation of the President establishing anything as a forest they became open by entry to the act of June 4, 1907.

By Mr. CLARK:

3. X Q. The first entries were made after that date.—A. Yes, sir.

Mr. CAMPBELL. Our contention is that the Secretary of the Interior or no person, except the Congress of the United States, can change the mineral law.

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The MASTER. Is there any issue upon that point?

Mr. LANE. No, there will be no issue upon that. The temporary withdrawal as a matter of law does not have the effect of withdrawing from the first entry for the reason that the temporary withdrawal is measured in its scope and effect by the purpose for which it is made. It is made for the purpose of a forest. Since the forests are open to mineral entry therefore the preliminary withdrawal is also subject to mineral entry.

FRED B. CLARK called for the United States; sworn.

By Mr. CLARK:

1. Q. What is your age and occupation, Mr. Clark?—A. Age 42; assistant forest ranger in the Forest Service.

2. Q. With what particular national forest are you connected?—A. With the Mono.

3. Q. How long have you been in that work?—A. On that particular forest?

4. Q. Yes.—A. Since April 1, 1907—excuse me, 1908. I went into the service on August 1, 1907.

5. Q. Do you have any duties to perform with respect to receiving applications for permission to cross Government land within national forests with ditch lines and pipe lines for power purposes?—A. I do.

6. Q. Have you had any dealings with the Hydro Electric Co., in that line with respect to crossing the land in controversy in this case, the south half of the northeast quarter of section 14, and the northeast quarter of the southeast quarter of section 14?

Mr. CAMPBELL. We do not pretend to say we ever made any application. There is no issue on that.

Mr. CLARK. I want to show that last year they spoke to this man about getting permission, and plastered these locations on the mineral land since, with full knowledge of the Government's rights, that they should obtain this permission, and they did this, and this suit was not brought without their full knowledge of the fact that the Government's position was at all stages that they must obtain the permission.

Mr. CAMPBELL. The rights of these parties is settled by the law. We will give them the admission for what it is worth.

Mr. LANE. We can also admit that members of this corporation discussed with various people, including Mr. Clark, the tentative proposition of putting in this power plant as early as December, 1909, or January, 1910.

Mr. CLARK. Before that.

Mr. LANE. It might have been before that.

Mr. CLARK. We say the mineral locations are not in good faith.

Mr. LANE. Let us go to that.

Mr. CLARK. We can show you put your mineral locations on after you came and talked about it.

Mr. LANE. We have admitted we came and talked about it.

Mr. CLARK. I want to show when you did.

The MASTER. I will allow the question.

Mr. CAMPBELL. We will take an exception.

Mr. CLARK. Read the question Mr. Reporter.

(The reporter reads the question.)

Mr. CAMPBELL. We object to the question as irrelevant and immaterial.

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By Mr. CLARK:

7. Q. Answer the question.

Mr. CAMPBELL. Ask him when.

Mr. CLARK. I will.

Mr. LANE. When and where and who was present?

A. Not as the Hydro Electric Co.

By Mr. CLARK:

8. Q. Well, with whom?—A. I had with Mr. Cain for the Cain Consolidated Mining Co.

9. Q. When was that?

Mr. CAMPBELL. We object to that; it is not with the defendant or any of its officers.

Mr. CLARK. Will you admit that Mr. Cain subsequently became an officer of this company?

Mr. LANE. He has an affidavit here as an officer of this company.

The MASTER. Let it go in for what it is worth.

Mr. CAMPBELL. We will take an exception.

A. Mr. Cain wrote to me to come to Bodie in November of last year; that he wanted to see about this matter; I went there and went over his maps and papers with him, and made out an application, recommended and sent it to the supervisor at Gardnerville.

By Mr. CLARK:

10. Q. What supervisor?—A. Mr. Maule.

11. Q. An application for what?

Mr. CAMPBELL. The application is the best evidence; it is in writing.

Mr. CLARK. We concede it is.

12. Q. Did you and he discuss the matter of his applying for leave to cross this land with a pipe line or ditch?

Mr. CAMPBELL. It is all subject to the same objection and exception.

The MASTER. Yes.

A. We did.

By Mr. CLARK:

13. Q. What was said by him and said by you upon that occasion?—A. We looked over the status of the land they were going to cross with this pipe line, and we found that with the status we had, as near as we could tell, this particular part was the only part of vacant Government land; he then applied for the permit. At that time he made no claim of any kind to it.

14. Q. What month was that?—A. In November.

15. Q. Who was present upon that occasion?—A. I don't quite remember. It was done in Mr. Cain's bank in Bodie. There were quite a number around there. Our discussion was generally private; generally so.

16. Q. After that occasion did you have any talk with any other man who is now an officer of the Hydro Electric Co., I think, before they filed their articles of incorporation?

Mr. CAMPBELL. The same objection.

A. I did; with Mr. Dieter, whom I presume is a member of the Hydro Electric Co.

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Mr. CLARK. What relation does he sustain to the company at the present time, gentlemen?

Mr. LANE. Secretary and treasurer.

By Mr. CLARK:

17. Q. Where were you when you had that talk?—A. I was at Mr. Hammond's store at Mono Lake.

18. Q. Is that a town not far from this place?—A. Close to it.

19. Q. The first talk was not far from this place?—A. The first talk with Mr. Cain was in Bodie.

20. Q. How far is that away?—A. About 18 miles.

21. Q. Coming down to this talk with Mr. Dieter, when did that occur?—A. The forepart of June; I believe it was on June 5.

22. Q. What was said by him and said by you upon that occasion?—A. I had been up where the work was going on the day before and saw the men grading for the pipe line were getting pretty close to the Government land. On that date I wrote to Mr. Cain a letter, informing him that he would have to secure a permit if he intended to comply with the regulations, or something to that effect.

Mr. CLARK. Do you admit the writing of that letter, gentlemen?

Mr. LANE. I do not know anything about it. I can find out.

The WITNESS. The next day I met Mr. Dieter at Hammond's store and asked him if he had made any arrangements to take out a permit to cross that land, and he told me they did not intend to take out a permit. He said they had certain rights upon this ground which they claimed they could cross over it with. I then asked him what the rights were. He said they claimed certain mineral rights and rights to an old ditch that was there.

By Mr. CLARK:

23. Q. Was anything else said?—A. That was about all that was said; all that I can remember that was said. He did not go any further into it with me.

24. Q. Was anything said upon the occasion by you to the effect that the Government would insist on their obtaining permission to cross that ground?

Mr. CAMPBELL. I object to that upon the same ground. It is absolutely immaterial what this man said about the Government's insisting.

The MASTER. The objection is overruled.

Mr. CAMPBELL. We will take an exception.

A. There was one point; while Mr. Dieter and I were talking before he left, I told him not to go upon the Government land without permission.

By Mr. CLARK:

25. Q. You did?—A. Yes, sir.

26. Q. Had you theretofore told the men who were working in the vicinity of this land that they must not go upon the Government land?

Mr. CAMPBELL. Objected to as incompetent, what he told the men.

The MASTER. The same ruling.

Mr. CAMPBELL. We will take an exception.

A. I told them that according to the regulations they could not go.

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By Mr. CLARK:

27. Q. Do you know any of the officials of the Hydro Electric Co. who were there supervising this work or acting in the capacity of manager?—A. I believe Mr. Poole is.

28. Q. Was he there at the time you told the men?—A. He was not.

29. Q. After you had this talk with Mr. Dieter, did you converse with any of the men there engaged in the work or with any officer of this company with respect to the position of the Government as to their crossing this land?

Mr. CAMPBELL. Can all this be made under one objection without specifically pointing it out?

The MASTER. Yes.

Mr. CAMPBELL. And exception.

The MASTER. Yes.

A. I did after they commenced to construct the pipe line.

By Mr. CLARK:

30. Q. You mean the pipe line upon the Government land?—A. Upon the Government land; yes.

31. Q. When was that?—A. That was on the 3d of August.

The MASTER. Of this year?—A. Of this year.

By Mr. CLARK:

32. Q. All these things occurred between November last year and the present?—A. And the present time.

33. Q. Did you have any talk with a man by the name of McCone, who was connected with this company?—A. I did; I think in August of last year.

Mr. CAMPBELL. I think you must be in error.

By Mr. CLARK:

34. Q. Is there a man named McCone connected with this company at the present time?—A. That is the Cain Consolidated Co.

Mr. CAMPBELL. Mr. McCone has not anything to do with this company.

Mr. CLARK. All right.

35. Q. Do you know a man named Burke?—A. I do.

36. Q. What is his first name?—A. Francis.

37. Q. Did you have a talk with him?—A. Yes, sir.

38. Q. When?

Mr. LANE. We object to that. No connection is shown.

Mr. CLARK. I will ask the gentleman if Mr. Burke is not an engineer serving this company at the present time?

Mr. LANE. He may be; I do not believe he is.

By Mr. CLARK:

39. Q. Was Mr. Burke working for this company? Could you see him there on the ground working for the company?

Mr. CAMPBELL. That would not make any difference.

A. I can not say I ever actually saw him working for the company. I gave him some notes and things of that land when he went to survey.

Mr. LANE. We might state his connection, if you wish. As I understand, Mr. Burke's connection has been only that of temporary help, and no other purpose except to run a few lines at odd times. He has no connection and no permanent position with the company; just a temporary extra employee and surveyor.

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By Mr. CLARK:

40. Q. I now hand you what purports to be plat and survey indicating certain mineral claims and natural objects, and ask you if you made that plat [handing]?—A. I did not make this plat.

41. Q. You made the survey?—A. Yes, sir.

42. Q. What of?—A. Of the northeast quarter of section 14, township 2, range 25 east.

43. Q. Does this plat which I hand to you indicate that survey?—A. Yes, sir.

44. Q. It is a map of it?—A. Yes, sir; it is.

45. Q. You have marked on this plat these words, or there is marked on this plat: "Halley Wolf Eagle Sunlight Johnnie Con High Grade and Pine Tree."—A. Yes, sir.

46. Q. Those names are put on the map to indicate what?—A. They indicated claims that were located by parties on this ground.

47. Q. When?—A. This last spring.

48. Q. Do you know who located them?—A. According to the records I got in Bridgeport——

Mr. LANE. The records will show that.

By Mr. CLARK:

49. Q. We admit that, but I want to examine him.

A. (Continuing.) The claims, all except the Pine Tree claim, were located by J. A. Conway. That claim was located by Francis Burke.

50. Q. When you made your survey you had a description of those locations?—A. I had.

51. Q. Had you the field notes of the quarter sections?—A. I had the notes of the east line of the section.

52. Q. You located, then, the quarter section corner on the east, did you?—A. Yes, sir.

Mr. LANE. Would it not save time—I believe our plat is correct, and it can go in. Why not take the description there?

Mr. CLARK. Ours is very good.

53. Q. You have also indicated on this plat a line marked on it, a line which runs through, which is indicated by the south half of the northeast quarter, and then after running into the northeast of the northeast quarter takes a northeasterly direction and runs through the northeast quarter of the northeast quarter.—A. Yes, sir.

54. Q. The upper line there is to indicate what?—A. To indicate the location of the pipe line as being built by the Hydro Electric Co.

55. Q. Is the pipe line built yet?—A. Not completed. It is partly built on that land.

56. Q. How far over the Government land does the pipe line extend?—A. According to the measurements we took it was 810 feet, if my memory is right.

57. Q. Beginning in the southwesterly or in the northeasterly corner?—A. Beginning in the southwesterly corner.

58. Q. There is no pipe line laid as yet along the route of the ditch as built, except as you have mentioned?—A. That is all, at the last time I was there.

59. Q. Have you gone over the line of that ditch which they have dug there?—A. I have.

60. Q. I ask you if the line that you have there correctly indicates the route of it?—A. According to my measurement and survey, it did.

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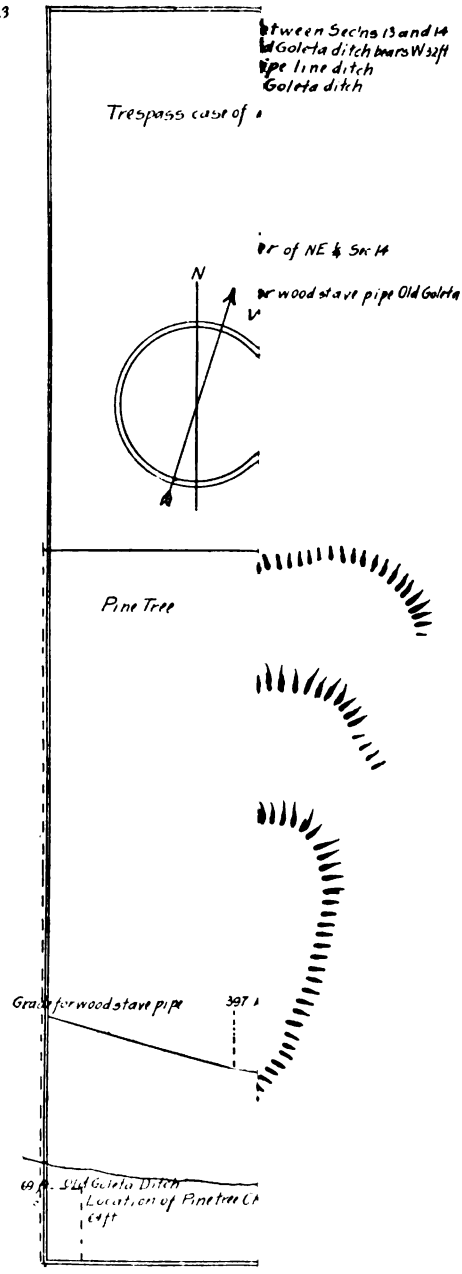
No 15276
IN U.S. CIRCUIT COURT
Northern Division of California
U.S.

Hydro Electric Co
Compl. Exhibit 3



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61. Q. Something has been said with respect to an old ditch. You mentioned the fact it was claimed by one of the gentlemen you talked with that some one had certain rights in an old ditch which ran across this land. I will ask you if that old ditch is located on this plat?—A. Yes, sir.

62. Q. Correctly?—A. I would not swear that it is absolutely correct there, but it is approximately so. We did not absolutely survey the old ditch. We tied it in two or three different places, but did not run over the entire thing.

63. Q. The map fairly illustrates the distance between the two ditches?—A. It does; it is reasonably close, although it would not be absolute.

Mr. CLARK. I offer in evidence this plat in connection with the witness's testimony and ask that it be marked "Government's Exhibit 3."

Mr. CAMPBELL. I suppose you can straighten it out, Mr. Clark, but there is a link missing before you introduce it. The witness has not testified that he made it or it was correctly made under his supervision. We object to the introduction of the paper until it is shown to be correct.

The MASTER. I think the witness testified that it was a correct map of the survey that he made. I will admit it.

Mr. CAMPBELL. He made the survey, but did not make the map.

The MASTER. I will admit it.

(The map is marked "Government's Exhibit No. 3.")

By Mr. CLARK:

64. Q. I hand you an additional blue-print map and ask if you had anything to do with the making of the original of that? [Handing.]—A. I made one similar to that and sent it to the forest supervisor, Mr. Maule, at Gardnerville.

65. Q. Referring to this blue print, I will ask you if it shows with approximate accuracy upon and about the land these natural objects and their location with respect to the land in controversy—Lundy Lake?—A. Yes, sir.

66. Q. Mill Creek?—A. Yes, sir.

67. Q. And the route of the old and the route of the proposed new ditch?—A. They are reasonably close.

68. Q. You mean by that they are illustrated with fair accuracy?—A. Yes, sir; probably not exactly right.

Mr. CLARK. I offer this plat in evidence in connection with the witness's testimony as Government's Exhibit 4.

The MASTER. Let it be admitted.

(The plat is marked "Government's Exhibit 4.")

By Mr. CLARK:

69. Q. You mentioned Francis Burke as being one of the locators of the mineral claims, and J. A. Conway was the locator of the balance, was he?—A. Yes, sir; according to the records I got in Bridgeport.

Mr. CLARK. In what capacity, gentlemen, does he serve this company?

Mr. LANE. Absolutely none.

By Mr. CLARK:

70. Q. Do you know Conway?—A. I do.

71. Q. Did he work for this company? What does he do?—A. He has a farm and does farming.

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72. Q. Where?—A. His farm is situated about a couple of miles north and east of the power site of the Hydro Electric Co., which is between 1 mile and 2 miles.

73. Q. How long to your knowledge has he been farming there?—A. He was there when I first went into the country a year ago.

74. Q. Do you know whether he has any land that might be irrigated by the waste waters from this ditch if the ditch was constructed across the Government land and ran down to the mill of the defendant?

Mr. LANE. That is objected to as irrelevant and wholly immaterial. Mr. Conway is not a witness here at all, and the bare fact that he may or may not have land that would be irrigated by this water after it has run through the ditch and been released at the power house I can not see is relevant.

Mr. CLARK. Will you admit he has been a rancher all the time?

Mr. LANE. He has been both a rancher and a miner.

Mr. CAMPBELL. I want to go on record as saying they can not attack these mining claims in this proceeding.

Mr. CLARK. I do say these claims are not located in good faith. They procured him to make locations, and immediately afterwards he makes a deed to the mining company.

Mr. LANE. We deny that.

Mr. CAMPBELL. They can not attack them in this proceeding. If your honor needs any authority, and I apprehend you do not, in regard to this——

The MASTER. That matter can best be subject of argument. I will let this testimony go in. You understand in these proceedings in equity there is a much greater latitude of ruling than in a case before a jury.

Mr. CAMPBELL. I understand the sole question referred to your honor is as to whether the Government is entitled to a preliminary injunction. It is simply whether or not on an action for an injunction pendente lite by the Government of the United States they can collaterally attack the mining claim which has been filed by outside third parties and conveyed, if your honor please, to the party here. I say that it is not so under the pleadings. That can not be done for the purpose of determining this. It is a record. All of the Government land is open to location, as I shall show your honor before we get through; under the recent decisions of the Supreme Court of the act of Congress these reservations do not affect it at all. They can not collaterally attack the good faith or the ownership of these mining claims without in their bill attempting to attack that thing and bringing in and making all these parties parties.

The MASTER. The objection is overruled.

Mr. CLARK. We offer in evidence the location notices to which the witness has referred. I ask that they be marked in their proper order.

The MASTER. Let them be admitted.

(The location notices are marked "Government Exhibits 5 to 11.")

Mr. CLARK. Now read the question, Mr. Reporter.

(The reporter reads the previous question.)

Mr. CAMPBELL. We make the same objection.

The MASTER. The objection is overruled.

Mr. CAMPBELL. We will take an exception.

A. He had land that I believe belongs to him.

Mr. CAMPBELL. I move to strike that out.

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Mr. CLARK. We consent that it may go out.

75. Q. Where is Conway's place located with reference to the mill site?—A. Northeast of the power site.

76. Q. Referring again to this blue print, I will ask you if the power site or power plant is clearly indicated in section 12?—A. It is about so; I don't know whether it is exact; I should judge that it is about the position it is in.

77. Q. It is marked on this "power plant"?—A. Yes, sir.

78. Q. You say he has lands lying northeast of it from the power plant?—A. He has. I can not absolutely swear; I never looked them up.

79. Q. Is he in possession of them?—A. He is.

80. Q. Upon this plat, Government Exhibit No. 3, you have indicated here that the Pine Tree and the High Grade do not join?—A. I have.

81. Q. Did you find that to be a fact from your survey?—A. From the records taken from Bridgeport I did.

82. Q. From the records themselves?—A. From the record of the location notices.

By Mr. CAMPBELL:

83. Q. Do I understand you did not run out the boundaries?—A. I did run out the boundaries.

Mr. CAMPBELL. I move to strike out what he testifies from the records. I thought it was from his actual survey.

The WITNESS. Maybe I mistook your question. I run out the boundaries of the forest land on the south and east side of that quarter section.

By Mr. CAMPBELL:

84. Q. Did you run the boundaries of these mining claims?—A. I did not.

By Mr. CLARK:

85. Q. How do you know those two mining claims do not lie together?—A. From the figures that I got from the location notices.

86. Q. Is it a matter of computation?—A. It is.

The MASTER. The motion is denied.

Mr. CAMPBELL. We will take an exception.

By Mr. CLARK:

87. Q. Do you know a man by the name of F. D. Mattly?—A. I do.

88. Q. What does he do; what is his occupation?—A. Rancher.

89. Q. Where does he live?—A. He lives between Mr. Conway's and the power plant.

90. Q. Northeasterly from the power plant?—A. Possibly a little west; nearly north his residence is.

91. Q. Do you know about what acreage he has?—A. He told me he had 160 acres.

92. Q. From your own observation?—A. I should say that to be about correct.

93. Q. Is it land that is subject to irrigation?—A. It is; a portion.

Mr. CLARK. I offer in evidence the F. D. Mattly location.

The MASTER. Let it be admitted.

(The location is marked "Government's Exhibit No. 12.")

Mr. CLARK. I also offer the following locations: Mattly No. 1, Mattly No. 2, Mattly No. 3, Mattly No. 4, Mattly Nos. 6, 7, 8, 9, and

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10, and we offer in evidence the deed from Mr. Mattly made January 21, 1910, to J. S. Cain, and the deed from J. S. Cain to the Hydro Elctric Co.

Mr. LANE. Before those are put in I should like to call your honor's attention to the fact that no one of these Mattly claims touches or affects any of the land in this bill of complaint described, and that the whole subject matter of the exhibits which is now offered in evidence is wholly immaterial and irrelevant.

Mr. CLARK. I want to show that these people deliberately plastered this land with location notices, starting in with the Mattly case and running from 1 to 10. Immediately after Mattly makes the location he deeds to Cain, who becomes vice president or officer of the company, and Cain deeds over to the company.

Mr. CAMPBELL. Suppose he did.

Mr. CLARK. It is apparent on the face of it that these locations are not in good faith.

Mr. LANE. Not to argue the question, but to show the irrelevancy of these exhibits, your honor will notice that they do not come within gunshot of anywhere near where this pipe line runs. Clearly, if a man locates a large tract of land which could not touch or affect the pipe line, the location of that land could have no bearing at all whatever except by the insinuation of counsel.

Mr. CLARK. About 15 minutes ago I was served with these location notices and deeds as being of some relevancy. I say the plan of these locations and deeds is self-evident. It is exactly like the building of a fence around a Government township, where they fence their own land, but the Supreme Court held it was a fencing of the Government land.

Mr. CAMPBELL. That is about as much like as daylight is from darkness. [After argument.]

The MASTER. There seems some point in the objection, Mr. Clark. What is your purpose in offering these as regards the matter at issue?

Mr. CLARK. My purpose is this: They have located in their process of location every inch of Government land in section 14 that lies within this forest reserve, and plastered it all as mineral. They do it after talking with these officials about getting a right to establish a ditch across this property. These locations, Mr. Dechant advises me, all relate to the north half of section 14, which remains as yet public land. They cover it all down to the last inch.

Mr. LANE. His honor himself, looking at the plat, can see those claims extend up to section 5 and section 2. It certainly would not be to your advantage nor relevant to your case to introduce evidence of mining locations extending 2 miles along a mineral ridge in an effort to prove that a little slender pipe line at the southern extremity north was gotten fraudulently.

Mr. CLARK. I offer them all. I am going to offer all of these mineral locations which were made here when this matter became a subject of discussion between these parties. They have taken the biggest part of the Government land lying northerly from the south half of section 14 that remains in that township clear to the line of the forest reserve.

Mr. CAMPBELL. Did they have no right to?

Mr. CLARK. They may have had some right to, but it is a marvelous thing that they so suddenly discover that the whole region is

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valuable for mineral purposes, and that the two ranchers go up there and locate it.

Mr. CAMPBELL. Will you give me an admission that all that land has been located from 1 to 10 down?

Mr. CLARK. That is probably it, and been found to be of no value for mineral.

Mr. CAMPBELL. With modern improvements it can be worked now?

The MASTER. I will admit the documents offered.

Mr. LANE. Our objection will go on the ground of regularity. We were going to introduce them in evidence as clearly tending to prove exactly the contrary.

Mr. CAMPBELL. We will take an exception.

Mr. CLARK. I offer in evidence the deed from F. D. Mattly to J. S. Cain.

(The deed is marked "Government's Exhibit No. 13.")

And I offer the deed from J. S. Cain of the same date to the Hydro Electric Co.

(The deed is marked "Government's Exhibit No. 14.")

(An adjournment is here taken until Wednesday, September 7, 1910, at 2 o'clock p. m.)

WEDNESDAY, SEPTEMBER 7, 1910—2 P. M.

FRED B. CLARK, recalled, direct examination continued.

Mr. CLARK. I wish to offer in evidence, if I have not already offered them, the deed from Francis Burke to the Hydro Electric Co., dated July 22, 1910, and the deed from J. A. Conway to the Hydro Electric Co., of the same date.

Mr. LANE. We make the same objection.

The MASTER. The same ruling will be made and an exception noted.

Mr. CLARK. I am not sure that those deeds have gone in. I am offering them out of abundance of precaution.

The MASTER. Let them be admitted.

(The Francis Burke deed is marked "Government Exhibit No. 15," and the J. A. Conway deed "Government Exhibit No. 16.")

By Mr. CLARK:

95. Q. When were you last upon the ground in controversy, Mr. Clark?—A. About the latter part of August, the last few days in August.

96. Q. Did you cross over the ground where these mineral locations are?—A. I crossed over the south end, the south end of the south claims.

97. Q. Along about the line of the ditch?—A. I was at the line of the ditch and the line of the south end line on the Government land.

98. Q. So far as you could observe, had there been any development work of any kind done on any of these mineral claims?

Mr. CAMPBELL. Objected to as immaterial. There does not need to be any development work done under the laws of the State of California. The law requires $100 worth of work to be done between now and the 31st day of December.

The MASTER. I will admit the evidence.

Mr. CAMPBELL. We will take an exception.

A. I could find no development work at all of any late date.

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By Mr. CLARK:

99. Q. Did you see any development work there?—A. There is an old dump on what I call the High Grade claim.

100. Q. That is a claim on the south half of the northeast quarter?—A. Yes, sir.

101. Q. Is there anything about the dump that you noticed that indicated the time it was made?—A. It simply appeared to be pretty old.

102. Q. There were no other developments of any kind that you saw on those claims along the line of the ditch?—A. There was no recent mining work that I could find.

103. Q. Did you make observation with the end in view of finding out if there had been any development?

Mr. CAMPBELL. Your honor will consider this all under our objection and exception.

The MASTER. Yes.

A. I did.

By Mr. CLARK:

104. Q. Did you ever talk with Mr. Cain [addressing counsel]—Mr. Cain is present here, is he not?

Mr. LANE. No; he is not.

Mr. CAMPBELL. He will be here.

Mr. CLARK. I specifically told him to be back here and relied on him being present.

Mr. LANE. We certainly expect he will be here.

Mr. CLARK. It will be impossible for us to complete our case without his being here.

Mr. LANE. There is no intention on our part of suppressing anything.

Mr. CAMPBELL. He is here now; but he is not under the direction of the United States attorney.

By Mr. CLARK:

105. Q. Did you ever talk with Mr. Cain on the subject of the purpose for which this pipe line was to be used?—A. I did at the time he made application for the Consolidated Mining Co.

106. Q. In 1909?—A. In 1909; in November.

107. Q. Have you ever, since May 11, 1910, talked with Mr. Cain or any other officer of the company as to the purpose for which they were going to use the pipe line?—A. I don't remember ever talking.

108. Q. What work has been done on the power house, if you know?

Mr. CAMPBELL. We object to that as immaterial.

The MASTER. The objection is overruled.

Mr. CAMPBELL. We will take an exception.

A. They have some concrete work done there.

By Mr. CLARK:

109. Q. About what are the dimensions of the pipe of the pipe line as laid?—A. Forty-eight inches, to the best of my knowledge.

110. Q. Have you seen their transmission lines, any of them, as constructed?—A. I have seen no transmission lines completed. I have seen part of the poles there where they were set and scattered out.

111. Q. Where do the transmission lines extend from the power house?—A. They extend between the power house and Bodie, and

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from there toward Aurora. I have never been over the entire line between Bodie and Aurora, but in that direction. I see them again on the road between Aurora and Lucky Boy.

112. Q. How far is Bodie from the power house and in what direction?—A. Generally northeast, about 18 miles, approximately.

113. Q. Have you gone the entire route of that transmission line?—A. I followed the road, and the road follows very closely to the power line.

114. Q. Is that constructed?—A. It is not.

115. Q. Are the poles all along there?—A. I could state they are all there; there are quite a number scattered there.

116. Q. Are any of them set?—A. I did not see any of them set on that strip.

117. Q. Bodie is the first town northeasterly from the power house—A. Yes, sir.

118. Q. The next place is what?—A. Aurora.

119. Q. In what general direction from Bodie does Aurora lie?—A. Nearly north, I believe.

120. Q. You followed the route of the transmission line from Aurora to Bodie?—A. I have been over a portion of it.

121. Q. To what extent is the transmission line constructed from Bodie to Aurora?—A. The line is not constructed. There is no line strung, as far as I have seen. The poles are set quite a little distance below Bodie.

122. Q. How far is Bodie from Aurora?—A. I believe about 12 miles.

123. Q. From Bodie where does this transmission line run—A. The line of the poles is toward Lucky Boy.

124. Q. How far is Lucky Boy from Bodie?—A. I think about 30 miles.

125. Q. To what extent is the line constructed between those two places?—A. There was no construction work that I could see that was done except some of the poles are scattered out.

126. Q. Did you notice any transmission line running from the side of the power house to the claims which have been referred to in the notices which have been put in evidence during the taking of your testimony?—A. I have not.

127. Q. You have noticed none?—A. Yes, sir.

128. Q. Did you look to see if there was any transmission line extending to those claims?—A. I did.

Cross-examination by Mr. CAMPBELL:

1. X Q. Bodie is a mining town?—A. Yes, sir.

2. X Q. And this Southern Development mine that Mr. Cain and this other man, the lieutenant governor of Nevada, the machine man, you mentioned his name, McCone, own—you know what the Southern Development mines are?—A. Yes, sir.

3. X Q. To the east of the Standard?—A. I do.

4. X Q. There are large mining claims there?—A. I don't really know the extent of them.

5. X Q. Aurora is a mining town, is it not?—A. Yes, sir.

6. X Q. There are a great many old mines there?—A. I was never in the town but once. I saw quite a number of dumps and indications of mines there.

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7. X Q. There are mines all the way between Bodie and Aurora?—A. I have seen various mines scattered through that country; I could not say now just how many.

8. X Q. Bodie has an electric-light plant of its own, has it not? It is lighted now by electricity?—A. It is partly, I believe.

9. X Q. Generated by the Standard mine or the Bodie mine?—A. I understand that is the fact.

10. X Q. So is Aurora as a town?—A. Aurora lighted?

11. X Q. Yes.—A. Not to my knowledge.

12. X Q. Have they not any electricity in Aurora?—A. Not that I know of.

13. X Q. Have you ever been there?—A. Yes, sir.

14. X Q. Never noticed it?—A. I never noticed it.

15. X Q. What is Lucky Boy?—A. A mining camp.

16. X Q. That is about 27 miles from Aurora?—A. I would not state exactly.

17. X Q. Have you ever been over there?—A. I have been through there.

18. X Q. There are a large number of mines there?—A. I have never stopped in the town; I have been through it twice.

19. X Q. You know there is a very large and valuable mine there called the Lucky Boy?—A. I have heard of it.

20. X Q. And a great many other mining claims in that vicinity?—A. I don't know just how many.

21. X Q. The places where these claims were taken up which you examined, the claims which have been introduced in evidence, you saw evidence of their having been worked in prior days?—A. I saw evidence of one tunnel.

22. X Q. And a dump?—A. Evidence of one tunnel.

23. X Q. Are you a miner?—A. I have worked in mines.

24. X Q. Do you call that ground forest or agricultural?—A. It is not agricultural.

25. X Q. You would call it mineral?—A. I would not say it is.

26. X Q. What would you say it was if it was not agricultural?—A. I could not say there is mineral on it, because I don't know for a fact there is.

27. X Q. You don't know there is not?—A. No, sir.

28. X Q. You never made an examination to find out if there was rock in place or not?—A. I never prospected in it.

29. X Q. Where did they bring this water from of this pipe line and this ditch?—A. From indications of the work, I should say they were bringing it from Lundy Lake.

30. X Q. Have you ever been up there?—A. I have.

31. X Q. Do they take it from Lundy Lake?—A. As far as I know they have not taken any yet.

32. X Q. That is the intake of the ditch line?—A. It is.

33. X Q. It runs how far?—A. About three miles and a half, I believe.

34. X Q. Three miles and a half from the intake to the power house?—A. I would not say positively; I should say about that; I could not state positively what it is.

35. X Q. How much of that pipe line goes over the Government land?—A. I could not say the figure just now.

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36. X Q. It goes over two forties does it not, as a portion of three forties?—A. Three forties.

37. X Q. It goes across the corner of one?—A. Across the three different corners.

38. X Q. That is, it does not cross the full length of any of the forties?—A. Not entirely, but it is on three forties.

39. X Q. One of them it just touches the corner, does it not? Just show it to his Honor. Here is where it comes in [pointing to map]. This is the Eagle?—A. Yes, sir.

40. X Q. It cuts a small corner of the Wolf and across the Johnnie Con; those are 20 claims, are they not?—A. I believe so, or about that.

41. X Q. They are supposed to be a mining claim, 1,500 feet long and 60 feet wide?—A. I believe so.

42. X Q. Did you measure to find out how far the line went on either of these mining claims?—A. I made a measure of the pipe line entirely through but not particularly over the claims.

43. X Q. You do not know how many feet is occupied by this pipe line which you claim is on Government land?—A. I do.

44. X Q. How many?—A. I have not got it in my mind. I have it on the map.

45. X Q. Can you tell by reference to something how many feet are on what you call Government land?

Mr. CLARK. Take your map, Mr. Clark. It is all figured out on his map.

A. I have not the thing completely added up here. It is in different sections as I surveyed it.

By Mr. CAMPBELL.

46. X Q. Give us the best of your opinion as to how many feet are actually used by this pipe line across the land that you call Government land.—A. About 5,000 feet.

47. X Q. A mile?

Mr. CLARK. He said about 5,000 feet.

Mr. CAMPBELL (cross-questioning). Five thousand two hundred and forty is a mile.

Mr. CLARK. He said about 5,000 feet.

Mr. CAMPBELL. I am asking him if it is a mile.

A. I could not say without adding up these figures.

48. X Q. Is not your map made to scale?—A. Yes, sir.

49. X Q. Can not you scale it and tell us? Do that after you step down. I do not want to take up the time of the court now. What is the character of the surface of this land?—A. It is gravel. It looks like a morain.

50. X Q. Is there any timber on it?—A. A little.

51. X Q. What kind?—A. Pine.

52. X Q. On what quarter section is the timber?—A. On this particular quarter section.

53. X Q. On what particular section do you speak of?—A. The northeast quarter of section 14.

54. X Q. That is the one you claim they are running the pipe line over?—A. Yes, sir.

55. X Q. How do they get a mile on a quarter section of land?—A. I don't say exactly a mile.

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Mr. CLARK. He has drawn it since, and illuminated the line of that ditch, Mr. Campbell. The question is absolutely immaterial.

Mr. CAMPBELL. He said about a mile.

The WITNESS. I said about.

By Mr. CAMPBELL:

56. X Q. A quarter section of land is a quarter of a mile square?—A. This does not run directly across.

Mr. CLARK. It is half a mile square.

Mr. CAMPBELL. A quarter section?

Mr. CLARK. Yes.

Mr. CAMPBELL. We will take that up later.

57. X Q. Are there large trees?—A. Some of them fairly good sized.

58. X Q. What is the character of the ditch which is dug?—A. The character of it?

59. X Q. Yes; how deep is it and how broad is it?—A. A portion of it is a grade, the part that the wood-stay pipe line is on. It is a grade, I should judge about 8 feet wide on the bottom.

60. X Q. A grade?—A. Yes, sir.

61. X Q. They have just graded it off?—A. Yes, sir.

62. X Q. They have not dug down into the Government land?—A. Except in places where there are cuts through it.

63. X Q. These cuts, how deep are they?—A. One I think would be about 12 or 15 feet; I never measured it.

64. X Q. Don't you know they proposed to put it all under the ground?—A. I don't know what they propose to do.

65. X Q. You don't know?—A. No, sir.

66. X Q. And cover it over?—A. I don't know what they propose to do.

67. X Q. How will the ditch or pipe line affect the Government?—A. How will it affect it?

68. X Q. Yes. What injury will it do to that land?—A. I could not state.

69. X Q. It will not do any, will it?—A. I do not quite understand your question.

70. X Q. How will the pipe line into the land which we are talking about, this quarter section of 14?—A. I don't know whether it will injure the land.

71. X Q. Will it not benefit it?—A. I don't know that it will.

72. X Q. Any forest fires up there?—A. I have never seen any.

73. X Q. You have never seen any in that country?—A. Not in that particular vicinity.

74. X Q. Ever seen any in this reservation?—A. I have.

75. X Q. If forest fires were to get in that immediate vicinity of the reservation you could use the water from the pipe line to put them out?—A. I don't see how you could.

76. X Q. Why could you not?—A. Without injuring the pipe line.

77. X Q. You might open the pipe line?—A. I don't know that we could.

78. X Q. It is a wooden pipe line?—A. It is a wooden pipe line; yes.

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79. X Q. So far as you know, this pipe line does not injure a tree, it does not injure a blade of grass, and it does not injure the soil?—A. As to a blade of grass, I could not say.

80. X Q. What do you say about the other?—A. I do not know it does.

81. X Q. Now, then, when you speak of a conversation with Mr. Cain in relation to the Southern Development mines or the Cain Consolidated mines, what did Mr. Cain say?—A. He told me that he wanted to put in a power plant there to work those mines in Bodie and Aurora, and also if he had any surplus power to sell it to other mine owners.

82. X Q. That is, that he wanted to work the mines about Bodie and Aurora?—A. Yes, sir.

83. X Q. Did he not say to you that the ore was of such low grade that it could not be worked if they had to use steam power?—A. I believe he said something to that effect. I have forgotten exactly what he said.

84. X Q. You know wood up there is $16 or $18 a cord?—A. I don't know.

85. X Q. Do you know how much it is?—A. Not exactly; I never bought any.

86. X Q. You know it is very high?—A. I can not say what you would call high. I have heard it was sold for $8 there.

87. X Q. $8 a cord?—A. Yes, sir.

88. X Q. And Mr. Cain and Mr. McCone also told you that the ore was of such quality and such grade that they could not work it with the present methods?—A. We had some conversation about that. I could not state exactly what it was. It was something to that effect.

89. X Q. These mining claims that you have spoken of, of Matley, they are all outside of the Government reservation, are they not, except four of them?—A. I could not say exactly where those claims are; I never looked them up to see.

90. X Q. Now, you know of your own knowledge what they intended to do with this power, don't you?—A. I do not.

91. X Q. Don't you?—A. No, sir.

92. X Q. What is your best impression as to what they intended to do with it?—A. My impression is that they are going to sell this power.

93. X Q. For what?—A. For any purpose that it is wanted for.

94. X Q. Don't you know they want this power to work those mines?—A. I don't know it as a fact. I could not swear that they do.

95. X Q. You know it as well as that they are going to sell it, don't you?—A. I do not positively know they are going to sell it. I say it is my impression they are going to sell it.

Mr. DECHANT. Which mines do you mean?

Mr. CAMPBELL. All the mines along that country there—the Bodie mines, the Aurora mines, the Lucky Boy mines, and the mines they have introduced in evidence.

Mr. CLARK. Do you admit that is the object of constructing the pipe line—for the purpose of selling power?

Mr. CAMPBELL. To work their own mines and sell the power to others.

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Mr. LANE. Mr. Cain will bring that out. If you want to call him, he is here. There is no occasion to admit it. He knows.

Mr. CLARK. You admit you are to sell this power as you wish, and to use it upon the mines between the power house and Bodie and between Bodie and Aurora, as you may wish, do you?

Mr. CAMPBELL. I will not give you any admission. You are not good enough to give us any. You can ask Mr. Cain. I am asking this witness.

The WITNESS. Will you read the question?

(The reporter reads the previous question and answer.)

Mr. CAMPBELL. That is all.

Redirect examination by Mr. CLARK:

1. R. D. Q. There is one thing I am not sure I brought out. You talked with Mr. Cain about their getting leave to cross the Government land?—A. I did.

2. R. D. Q. And talked with some connected with the company?—A. With Mr. McCone, of the Cain Consolidated Co.

Mr. LANE. We object to that.

Mr. CLARK. I consent that that may go out.

3. R. D. Q. Do you know whether you had a talk with Mr. Cain with respect to the necessity or propriety of his obtaining permission from the Government to cross its land before they had actually constructed their pipe line on the land?

Mr. CAMPBELL. Objected to as absolutely immaterial. This man can not tell whether it is necessary or not.

The MASTER. Read the question, Mr. Reporter. [The reporter reads the question.] I will allow the question.

Mr. CAMPBELL. We will take an exception.

A. I did.

By Mr. CLARK:

4. R. D. Q. Do you know when it was that the pipe line was built on the Government land?—A. On August 3 they were working upon it.

5. R. D. Q. On the pipe line on Government land?—A. Upon the Government land; and later, a few days, they did some more work on it.

6. R. D. Q. Have they covered any of the pipe line that they run onto the Government land?—A. They had not the last time I was on the ground.

7. R. D. Q. There will have to be some additional excavation and digging in order to lay the pipe along the trench, will there not?—A. I have not seen any done in what work I have seen done on the ground.

Mr. CLARK. I have certain affidavits which I wish to offer in evidence upon the point that the waters of Mill Creek which run from Lundy Lake have been used for a great many years for the purpose of irrigation. The affidavits are also to the effect that the use of the old Golito ditch, which is shown on these maps, was abandoned about the year 1902.

The MASTER. You had better identify them. Do you want them read, Mr. Campbell?

Mr. CAMPBELL. No; I do not care to hear them read. What is the object about the irrigation?

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Mr. CLARK. Simply to show who has been using the water in the ditch. The company has not.

Mr. CAMPBELL. You do not deny we have been appropriating a certain amount of the water of the lake under the laws of the State of California?

Mr. CLARK. I would rather leave that to your proof. For years these men have been using this water.

Mr. CAMPBELL. Is that in an affidavit?

Mr. CLARK. Yes.

Mr. CAMPBELL. We make the objection to that part of the affidavit that this is not a question between riparian proprietors. The Government has not anything to do with that or with the appropriation of water. The water streams belong to the State. The statute provides how they shall be appropriated for all kinds of purposes.

Mr. LANE. Furthermore, the objection to the point that the right to the ditch in such portion of those affidavits as go to that of user in the ditch, that they are entirely immaterial and irrelevant. The United States court has held, with reference to ditches and those rights of way, that they are not forfeited by nonuser, but only by the Government exercising its forfeiture through acts of Congress or through forfeiture in courts of law, and no action of that kind has been taken.

Mr. CLARK. I see nothing in these affidavits indicating that this company has ever succeeded to the rights of way in that Old Golito Ditch, which is shown on this map to run in the same direction as the ditch they have dug.

Mr. LANE. They have succeeded.

Mr. CLARK. Then I wish to put this in to show the use of that ditch was abandoned in 1902, and that the waters of Mill Creek have since then been used for irrigation purposes by the farmers in the immediate vicinity and to the east of the power site.

The MASTER. I can see that the affidavits will be relevant in some regard anyway, and I will admit them subject to the objection.

Mr. CLARK. The first is the affidavit of A. G. Allen. You waive the reading of them, gentlemen? They are all to the same point.

Mr. CAMPBELL. Yes; but I do not waive the right of the counsel to answer by answer. I understand the practice to be if a person gets an injunction on a bill alone without an affidavit, then if you answer the bill by affidavits, counter affidavits, or counter testimony may be taken; but if you get your injunction, whether it be a temporary injunction or whatever it may be upon the bill and affidavits, and that affidavit is answered by affidavit, then it stops. That is the practice, it seems to me.

Mr. CLARK. The rule of the circuit court is very specific, that the party who has procured a temporary restraining order on the hearing which is had for the purpose of determining whether the preliminary injunction shall issue, shall go forward and put in his proof. We have certain oral testimony which we introduce and have certain affidavits. We were not served with affidavits prior to the hearing and have not served these affidavits, but the court has a right to receive these affidavits. I am confident of that; it has been done heretofore. I do not want to disregard the ordinary rules that prevail in these cases.

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The MASTER. I will admit the affidavits and shall be very glad for any authorities on either side on this particular point, which would go toward striking out these affidavits here.

Mr. CAMPBELL. We will take an exception.

Mr. CLARK. The first is the affidavit of A. G. Allen.

(The affidavit of A. G. Allen is marked "Government's Exhibit No. 17.")

The next are two affidavits of Mattly, the locator of the mineral claims. I offer these also on the point to show that Mattly is a rancher in that vicinity and has been for a great many years.

(The affidavits of Mattly are marked "Government's Exhibit No. 18.")

The next is the affidavit of J. B. Hammond.

(The affidavit of J. B. Hammond is marked "Government's Exhibit No. 19.")

The next is the affidavit of Pat Ragun.

(The affidavit of Pat Ragun is marked "Government's Exhibit No. 20.")

The next is the affidavit of Charles H. Currie.

(The affidavit of Charles H. Currie is marked "Government's Exhibit No. 21.")

Mr. LANE. Mr. Clark did not give us the opportunity of viewing these. As your honor will notice, they are not affidavits. They do not even purport to be affidavits. There is not one scintilla of ground on which to base any argument that they are affidavits. They are nothing but ex parte statements before Assistant Forest Ranger F. B. Clark.

Mr. CLARK. Wait until I finish making the offer before making the objection.

The MASTER. They have been admitted, as I understand. He is simply enumerating them.

Mr. LANE. They have been admitted as affidavits.

The MASTER. I do not know if a forest ranger has the authority to take affidavits.

Mr. DECHANT. There is an express statute—I do not remember the number of it at present—authorizing forest officers or other Government officers to take affidavits in any case affecting Government land.

Mr. LANE. I am familiar with the statute to which Mr. Dechant refers and beg to differ with him most radically. The act under which all of these forest officers have professed the right to take affidavits was passed long years before the Forest Service came into existence and has absolutely no bearing. It will be perfectly clear when the statute is read that there is no authority for this. I know very well, even though the court or anyone should take Mr. Dechant's view of it, any lawyer would recognize that that view is based on a very slender basis.

The MASTER. That is the point of your objection specifically?

Mr. LANE. Yes; that they are not affidavits, and nothing but ex parte declarations, and have no sanction of law whatever.

Mr. DECHANT. If that statute applied to public lands at all, it applied to public lands at the time it was passed. It will apply to Forest-Service lands, which are also public-service lands at the same time, and any forest officer is enabled to take an affidavit regarding those lands in their investigation.

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Mr. CLARK. I had some doubt about this in offering them. I did not know the point was to be raised, but I should like to offer them subject to the objection.

The MASTER. I think it would be the most judicious way to admit them with that understanding, that if it should appear that this forest ranger had no authority to take them they will be stricken out.

Mr. LANE. Does not your honor think they should show that before they come in with these statements?

Mr. CLARK. I am satisfied that your honor should not read them until it is shown.

The MASTER. In all regularity, they certainly should.

Mr. LANE. You have seen, Mr. Clark. All of these rangers are men who have no judicial capacity. They go out and take statements, and I state this confidently, they never have in the course of judicial history been admitted in any court of record.

Mr. CLARK. There are special agents who are entitled to take affidavits.

Mr CAMPBELL. Not all.

Mr. CLARK. Secret-service agents may take affidavits and special agents of the Department of the Interior.

Mr. LANE. There are certain agents that come within the terms of the statute, which clearly excluded these forest rangers, who are fire-fighting men and not investigators.

Mr. CLARK. They are men on whose reports cases are constantly brought.

Mr. LANE. And sometimes misfortunes like this occur.

Mr. CAMPBELL. Judge Gould, in Washington, threw out a batch of depositions attempted to be taken by some secret-service agent, under the dominion and control of one man not unknown to fame about San Francisco, a little while ago, and held that while their duties were varied and were great, that in his court and courts of justice they were not authorized to take affidavits such as will deprive a man of his life or his liberty or his property.

The MASTER. I suppose if I ruled them out on the ground that a forest ranger was not entitled to administer an oath, the United States attorney would be entitled to have them made a part of the record so that they will appear before the court. For my own information in this matter I should like to be satisfied whether they are affidavits or not. I will not do it at this time, but I will receive them for the present, subject to that objection. I am not going to pay any attention to them unless I see that they are affidavits and that this ranger has the authority to administer an oath.

Mr. LANE. We submitted full copies of ours to them, so that everything might be open and there might be every opportunity to pass on the action on both sides. We should like to have copies of those. I think that is no more than right.

Mr. CLARK. We would have furnished them if we had had time.

Mr. CAMPBELL. Have you copies, that we can look at the substance, if the court should admit them?

The MASTER. They are admitted.

Mr. CAMPBELL. If they should stay in the record we should have copies.

Mr. CLARK. We will make copies of them.

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(The next affidavit, of L. W. Dechanbeau, is marked "Government's Exhibit No. 22.")

W. M. MAULE, called for the United States; sworn.

By Mr. CLARK:

1. Q. What is your age and occupation, Mr. Maule?—A. Age 33; forest supervisor.

2. Q. How long have you been forest supervisor?—A. About one year.

3. Q. Have you any duties to perform with reference to Mono National Forest Reserve?—A. I have the general supervision of the work in the forest.

4. Q. During the time you have mentioned?—A. Yes, sir.

5. Q. Have you anything to do with the receipt of applications for leave to cross Government land?—A. I have.

6. Q. In constructing power lines or irrigating ditches, ditches for rights of way?—A. All cases.

7. Q. Do you know any of the officers or agents of the Hydro Electric Co.?—A. I am acquainted with Mr. Cain and Mr. Dieter, also Mr. Chappell.

8. Q. In what capacity does Mr. Cain serve that company—vice president?—A. I believe so.

9. Q. And Dieter?—A. Secretary and treasurer.

10. Q. And Mr. Chappell?—A. I do not recall Mr. Chappell's position.

11. Q. Have you ever had any dealings with them, with respect to their obtaining a right of way across this land in controversy—the south half of the northeast quarter and the northeast quarter of section 14?—A. I have asked them from time to time to make application.

12. Q. Where did you meet these men and talk this subject over with them?—A. I met Mr. Dieter and Mr. Chappell in Gardnerville some time this spring.

13. Q. Gardnerville, do you say?—A. Yes, sir; he called to see me on the matter.

14. Q. Where are their offices?—A. I believe their operating offices are in Bodie.

15. Q. How did they happen to meet you at Gardnerville?—A. They came to talk over the matter of a permit.

16. Q. Who was there at that time?—A. Mr. Chappell and Mr. Dieter.

17. Q. When was that?—A. I believe late in May. I have definite records of the exact date.

18. Q. Can you give us those records?—A. I think Mr. Dechant has them.

19. Q. Have you certain correspondence with the officers of this company with respect to their obtaining this right of way?—A. I have.

20. Q. Beginning about what time?—A. The predecessors of the company applied some time early in November, 1909.

Mr. LANE. I object to that and ask that it be stricken out, upon the ground that it is a bare conclusion and opinion of the witness as to the predecessors of this company.

The MASTER. It may go out.

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By Mr. CLARK:

21. Q. State who it was.—A. Mr. McCone, of Reno.

22. Q. That was in November?—A. Yes, sir.

23. Q. Did you talk with any one of these other men that you mentioned that early?—A. Not at that time; that was the first acquaintance I had with the case.

24. Q. When was the first time thereafter that you did have any talks with any of these men you have mentioned—Cain, Dieter, and Chappell?—A. It was some time during the middle of the spring. I do not recall the exact date.

25. Q. Before this meeting in May?—A. Yes, sir; it was on the train coming from Thorn to Reno.

26. Q. With whom did you talk?—A. Mr. Cain and Mr. Chappell, and I believe who is now the president of the company, Mr. Causey, I believe is his name.

27. Q. What was said on that occasion about obtaining in general as to the requirements of the Government in such cases?—A. I told them what the requirements were.

28. Q. Was any reference made to this particular piece of land?—A. We talked over it in general. They discussed the matter in reference to this particular case, giving me the idea they were going to——

Mr. CAMPBELL. One moment.

By Mr. CLARK:

29. Q. State the substance of what was said.—A. I do not remember.

30. Q. Give us the exact words if you can not tell the substance.—A. I can not give the exact words. They asked about the requirements in this case, or rather to construct a pipe line over the Government land.

31. Q. That was before this meeting in May?—A. Yes, sir.

32. Q. What did you tell them?—A. I told them the requirements.

Mr. CAMPBELL. This is all under our objection. We object to it.

The MASTER. I overrule the objection.

By Mr. CLARK:

33. Q. Upon this occasion was anything said by these men as to their proceeding to obtain a permit for a right of way?—A. I told them how to proceed in the case. I told them of the requirements as prescribed by the Use Book, regulation 15.

34. Q. Was anything said by these gentlemen at the time to the effect or in substance that they would take steps to obtain a right of way across Government land?—A. They did not say they would, but they intimated that they would.

35. Q. I do not care for the exact words; I want you to give me the substance of what was said upon that occasion.—A. My recollection is not very clear on that. I met them in a casual way. We talked over the matter in a friendly way to pass the time.

Mr. LANE. We want to call attention to the objection again and to the fact that it is admitted that they have not made any application. That fact being admitted and not questioned, all of this is immaterial, it seems to me.

Mr. CLARK. It goes to the question of notice and of the good faith of these mineral locations; both.

Mr. LANE. We will admit they have not made any application.

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Mr. CLARK. Will you admit you were getting ready to before you decided to put on mineral locations on the land?

Mr. CAMPBELL. No.

Mr. LANE. We certainly will not.

By Mr. CLARK:

36. Q. When, after that time, did you next have a talk with any of these representatives of this company?—A. It was some time, I believe, in May; the exact date is on record.

37. Q. Can you give us that exact time?—A. I can not; it is on file.

38. Q. Have you any reference to it?—A. Yes, sir.

39. Q. Here?—A. Mr. Dechant has it.

40. Q. Will you kindly arrange these records so that you can give us that date?

Mr. LANE. I object to any conversation with Mr. Chappell, because the witness has testified that he does not know of any connection that Chappell has with the company.

The MASTER. He said he had some connection which he could not define. I overrule the objection.

Mr. CAMPBELL. We will take an exception.

By Mr. CLARK:

41. Q. Can you give us the date of that conversation about which you were talking, held at Gardnerville?—A. The date was late in the spring or early in the summer.

The MASTER. 1910?

A. 1910. Probably early in July or late in June.

By Mr. CLARK:

42. Q. What was said upon that occasion about the getting of the right of way?

Mr. CAMPBELL. Has the witness testified with whom the conversation was held?

Mr. CLARK. Yes.

Mr. CAMPBELL. With whom?

A. Mr. Dieter and Mr. Chappell.

By Mr. CLARK:

44. Q. What was said upon that occasion?—A. Mr. Chappell stated that they had been negligent in the matter of making application in submitting the maps required. He claimed the company had been unable to have the definite survey made, and he said, as soon as that survey and map was made, they would be submitted in due form.

45. Q. Before that was there any correspondence between yourself and Mr. Cain with respect to obtaining a right of way and the making of an application for a right of way?—A. Yes, sir.

Mr. CAMPBELL. With this corporation?

Mr. CLARK. With Mr. Cain. He is now the vice president. I want to show he knew all about it.

Mr. LANE. I object to that. Mr. Cain is here.

Mr. CLARK. I can prove knowledge by this witness.

Mr. LANE. The Cain Consolidated Co. was an entirely separate company from this and has no connection with it. It simply happens

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to be fortunate enough to bear Mr. Cain's name, which is a good name in that country.

The MASTER. I overrule the objection.

Mr. CAMPBELL. We will take an exception.

A. I wrote to Mr. Cain inviting his attention to the fact that the necessary papers had not yet been received. That was early in the spring. He referred me, I believe, to Mr. Chappell.

Mr. CAMPBELL. The letters are the best evidence.

Mr. CLARK. You have some of the letters written by Mr. Maule to Mr. Cain. Have you them here?

Mr. CLARK. I will ask you if this is a letter that was received by you from Mr. Cain, which bore on that general subject. It is dated March 7, 1910.

A. March 10, 1910.

47. Q. In reply to one of March 7, 1910?—A. Yes, sir.

48. Q. Is this the copy of the letter that you addressed to Mr. Cain at the time?

Mr. CAMPBELL. It all goes in subject to our objection.

Mr. CLARK. We admit the original letter is the best evidence.

Mr. CAMPBELL. I do not make that objection, but the entire testimony is absolutely immaterial. Mr. Cain is not shown at that time to be speaking anything about this, and it affirmatively appears from the other witness that he wanted it for another purpose entirely.

The MASTER. I will admit it for what it is worth.

Mr. CAMPBELL. We will take an exception.

Mr. CLARK. I offer these two letters in evidence.

Mr. CAMPBELL. I wish you would let us see them.

Mr. CLARK. Yes, certainly; excuse me [handing].

Mr. CAMPBELL. They are subject to the same objection. The two letters show exactly what I said, that Mr. McCone and Cain were entirely after a different purpose.

The MASTER. Will you read them into the record?

Mr. CLARK. Will you waive the reading, gentlemen?

The MASTER. Do you want them in the exhibits?

Mr. CLARK. We offer them in evidence collectively as an exhibit.

Mr. CAMPBELL. Objected to as immaterial. They cast no light on the matter at issue.

The MASTER. The ruling is already made.

(The letter of March 7 is marked "Government's Exhibit No. 23," and the reply of March 10 is marked "Government's Exhibit No. 24.")

Mr. CAMPBELL. We will take an exception.

(Government's Exhibit No. 23 is as follows:)

[Mono, uses. Cain Consolidated Gold Mining Co., Pipeline, November 19, 1909.]

MARCH 7, 1910.

Mr. J. S. CAIN, *Bodie, Cal.*

DEAR SIR: Under date of November 28 I wrote you requesting certain papers in this case, in reply to which you referred me to Mr. A. J. McCone, of Reno, Nev. Mr. McCone has just informed me that you have taken over his interest in this property and will handle it in the future.

I have your informal application covering a right of way in this forest for a pipe line in T. 2 N., R. 25 E. Under regulation 16 of the Use Book applicants for special-use permits for projects of this kind are required to submit duplicate maps, on tracing linen, showing the right of way as surveyed, together with field notes, in duplicate, both of which are to be certified to under oath by the surveyor.

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In addition to this there is required a copy showing your right to the use of the water procured under local laws of the State of California, together with duly certified copies of the articles of incorporation of your company, in duplicate.

If you contemplate work on this structure during the coming spring, will you please furnish me with the above papers as soon as possible, so that I may take up our end of the work?

Very truly, yours, W. M. MAULE,
Forest Supervisor.

(Government's Exhibit No. 24 is as follows:)

BODIE, CAL., *March 10, 1910.*

Hon. W. M. MAULE,
Forest Supervisor, Gardnerville, Nev.

DEAR SIR: Acknowledging receipt of your favor of March 7, we will proceed to show our right to the use of the water and furnish necessary papers as instructed at the earliest date possible.

Thanking you, I am, yours, very truly, J. S. CAIN.

By Mr. CLARK:

49. Q. I have here a letter and I will ask you if you received that letter from Mr. A. F. Dieter, secretary and treasurer of the company [handing].—A. It is.

Mr. CAMPBELL. I object to that. That is a very easy way of proving the secretary and treasurer of a corporation.

Mr. CLARK. It is already admitted.

Mr. LANE. I do not think it was admitted.

Mr. CLARK. I asked you who Mr. Dieter was. You said he was secretary and treasurer.

Mr. LANE. That is true enough. But it is an easy way you have of proving it. That does not appear to be the entire correspondence in this instance. The inclosure, which is part of the letter itself is not there.

Mr. CLARK. We desire to offer the letter in evidence.

Mr. CAMPBELL. I make the same objection to that letter that I did to the other.

The MASTER. The same ruling.

Mr. CAMPBELL. We will take an exception.

(The letter is marked "Government's Exhibit No. 25" and is as follows:)

HYDRO ELECTRIC CO.,
BODIE, CAL., *August 4, 1910.*

Mr. W. M. MAULE,
Forest Supervisor, Gardnerville, Nev.

DEAR SIR: We were very much surprised yesterday to be informed over the telephone by Mr. Elliott, acting for the Forest Department, that he had stopped the progress of our work on Mill Creek, and threatened arrests if work progressed any further.

As you know, we feel that we have certain rights, under which we are proceeding, and we do not feel that Mr. Elliott has been fully informed with reference to these matters, and that he must have attempted to stop this work and threatened arrests without proper authority or knowledge as to our rights.

With reference to the filing of data, which Mr. Chappell and myself informed you during our recent visit in Gardnerville, that we would proceed to prepare and supply you with as soon as possible, wish to say that we already have this work under way; and it is our intention to prepare and file with the Forest Service Department all the data that is desired, in so far as that can be done without serious detriment to the progress of our work.

In connection with this matter, I think Mr. Lane has expressed himself very clearly in his letter to me under date of July 28, with reference to the conditions under which we are laboring at the present time. As the season is progressing very rapidly, we can not delay the progress of the work for matters that can follow in due time. I am,

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therefore, sending you a copy of Mr. Lane's letter of July 29 addressed to me, which discloses the conditions very fully.

We are doing everything possible to expedite the making up of details required by your department, and will send them to you as soon as we can conveniently do so, which we hope will be satisfactory.

Yours, very truly,

A. F. DIETER,
Secretary and Treasurer.

Duplicate sent district forester August 8, 1910. W. M. M.

By Mr. CLARK:

50. Q. After July, after your last talk that you refer to, that you say in the latter part of spring or early part of summer, did you have any other talk with Mr. Cain or Mr. Dieter in regard to their obtaining permission to cross this Government land?—A. I had no further talk with them.

51. Q. No further conversation?—A. No further conversation.

Cross-examination by Mr. LANE:

1. X Q. Do you remember writing to Mr. Dieter with reference to this matter about July 23?—A. I can not say I wrote him about that date. I have written him in regard to the matter.

2. X Q. You do not have any recollection, do you, of writing to him about July 23, telling him that your previous explanation and your previous directions were incomplete, indefinite, according to that last letter of yours?—A. I explained to him that the method of procedure had recently been changed in reference to applying to the new procedure. That was, I believe, three days succeeding the time when I sent him the formal procedure.

3. X Q. The former procedure was sent about July 19?—A. The formal procedure was there. I took the matter up fully with Mr. Dieter and Mr. Chappell when they called at my office early in July.

4. X Q. You have already explained that.—A. Yes, sir.

5. X Q. I am referring to a letter in which you changed your procedure, which was along after the middle of July.—A. I can not say as to the date. Mr. Dieter acknowledged receipt of the letter and said he would proceed accordingly.

6. X Q. Did not Mr. Cain and Mr. Dieter tell you that, while they considered they had full legal right to cross these lands without a permit, that for your information, if you desired, they would be very glad to accommodate you by filing as soon as they could all of the plans and maps and data which you requested?—A. Mr. Cain, I believe, did not——

7. X Q. I should like a reply to the question.—A. No, sir.

8. X Q. They did not tell you that?—A. No, sir.

Mr. CAMPBELL. Never?

A. No, sir.

By Mr. LANE:

9. X Q. Nothing in substance to that effect?—A. They did not.

10. X Q. What did they tell you?—A. Do you mean in correspondence?

By Mr. CAMPBELL:

11. X Q. You do not talk in correspondence; you write.

Mr. CLARK. They called for correspondence. The witness was answering fairly.

Mr. CAMPBELL. I beg your pardon.

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Mr. CLARK. The correspondence was called for by Mr. Lane.

Mr. LANE. I think he has referred back; in fact, I know my question referred back to the conversation to which he referred.

A. That conversation was between Mr. Chappell, Mr. Dieter, and myself.

By Mr. CAMPBELL:

12. X Q. Did any persons connected with this case ever claim to you that they had the right to go across that land?—A. There was some reference made by letter of a private claim.

13. X Q. From whom?—A. I don't recall now just who it was.

14. X Q. Have you that letter?—A. The letter should be on file somewhere.

15. X Q. Where?

Mr. CLARK. I will let him look for it.

By Mr. CAMPBELL:

16. X Q. Where should it be on file?—A. It is probably there if it is on file.

17. X Q. Where should it be on file?—A. A copy should be on file at my office at Gardnerville.

18. X Q. Where is the original?—A. Or rather the original should be there.

19. X Q. Did you bring all your letter files down here?—A. I brought all I could find, which is probably all of them.

20. X Q. Did you get a letter from any person connected with this company as you know stating to you or claiming that they had the right to go across this land without your intervention?—A. It seems to me there was some refernce made to it, but I do not recall exactly now if there was.

21. X Q. Will you look for the letter?

Mr. CLARK. Yes; he will look for it.

Mr. CAMPBELL. If you can find it, you can produce it at the next session of court, or if it is here let us take it this afternoon?—A. Yes, sir.

By Mr. LANE:

23. X Q. Don't you remember receiving from Mr. Dieter a copy of a letter written to Mr. Dieter by Mr. W. H. Metson, an attorney of this city, in which Mr. Metson explained fully what he considered their legal grounds and rights and the entire propriety of their crossing there without any permit at all over these valid mining claims?—A. I believe in that letter that you refer to he stated that they could not use those mining claims for the purpose of other than foreign to mining.

24. X Q. You believe he stated that?—A. Yes, sir.

25. X Q. You saw the letter, then, did you?—A. I saw the letter; yes.

26. X Q. You received a copy of it?—A. I received a copy of it; yes.

27. X Q. Don't you remember distinctly, now that you think of it, that Mr. Metson said in that letter that while he did not claim they would have any right to locate a mining claim for the purpose of running a line over it; that if they did locate it in good faith for mineral purposes they would have absolute freedom in running the

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line as they chose anywhere in the boundaries of it?—A. I do not recall that point. The correspondence has been so large in the case.

28. X Q. Don't you remember, now that your memory is refreshed, that the point he made was not that they would have run the line solely for the purpose of development, but would have to locate the claim solely for the mineral, and then they could run the line over it?—A. I can not testify to that point.

29. X Q. Are you willing to try and find the letter and let us know when you get it.

Mr. CLARK. He stated he would.

By Mr. LANE:

30. X Q. I stated about this letter.—A. Yes, sir.

Redirect examination by Mr. CLARK:

1. R. D. Q. How long was it before Mr. Metson commenced to advise you as to this attitude on the part of these people seeking to obtain this permit after you had had the talk with Mr. Dieter and Mr. Chappell at Gardnerville, if you remember?—A. It was probably two weeks.

2. R. D. Q. In the talk at Gardnerville was anything said by anyone about having the right to cross the land because it was mineral land and because of the location?—A. No, sir; that point was not brought up at all.

3. R. D. Q. It was not discussed?—A. It was not discussed.

Mr. CLARK. This is not redirect examination, but I want to ask him this question:

4. R. D. Q. Did you, at the time of the talk at Gardnerville with Mr. Chappell and Mr. Dieter, give them a copy of the Use Book?—A. Yes, sir.

5. R. D. Q. And explain to them what they would have to do to get the right of way?—A. I did.

6. R. D. Q. I think you have already stated that Mr. Chappell said that the maps were in progress of making?—A. Yes; he did at that time.

Mr. CLARK. With your honor's permission Mr. Dechant wants to ask a question.

By Mr. DECHANT:

7. R. D. Q. Mr. Maule, what was, as you remember it, the change in procedure that was sent to Mr. Cain or to Mr. Dieter at the time referred to by Mr. Lane?—A. When Mr. Dieter and Mr. Chappell were at my office I advised them to proceed in accordance with the regulations as established by the Use Book at the present time.

8. R. D. Q. What did those regulations require at that time?—A. They required certified copies of the articles of incorporation in duplicate and certified copies of evidence of their right to use the water as procured under local laws of the State, and maps in duplicate, and the oath of the engineer executing them.

Mr. CAMPBELL. I do not think that makes any difference. We did not see them. We object to it.

Mr. CLARK. We will not go into it any further.

9. R. D. Q. Is this a copy of the Use Book furnished those men [handing]?—A. It was a smaller copy.

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10. R. D. Q. Is the contents the same?—A. It contained the same material.

Mr. CLARK. I offer this in evidence. There are two or three little references in it.

Mr. CAMPBELL. We object to it.

Mr. CLARK. It is the Use Book, setting forth all the regulations.

Mr. LANE. Which regulations have not been pleaded or referred to in their complaint.

Mr. CLARK. We offer it for the convenience of the court.

Mr. LANE. Why not submit it informally for the court's inspection?

Mr. CLARK. I submit it for the court's inspection.

The MASTER. Does it have the force of law?

Mr. DECHANT. The regulations therein do.

Mr. CAMPBELL. No. The Supreme Court of the United States and you happen to be at variance.

Mr. DECHANT. Not in the sense that Congress passed them, but the court will take judicial notice as if they were laws passed by the Secretary of Agriculture.

Mr. CLARK. They have the absolute force of law where they are promulgated by authority.

Mr. CAMPBELL. No one can make laws but Congress. They have the force of law in so far as they affect the people under him, wherein he makes the rules and regulations for the government of his subordinates.

The MASTER. Is it offered in evidence or offered for my perusal?

Mr. CLARK. For your honor's perusal.

JAMES S. CAIN, called for the United States; sworn.

By Mr. CLARK:

1. Q. What is your name?—A. James S. Cain.

2. Q. What official connection have you with the Hydro Electric Co.?—A. Vice president.

3. Q. How long have you been vice president?—A. About three months.

4. Q. Who was your predecessor as vice president?—A. The company was not organized before that.

5. Q. Were you organized on May 11?—A. I don't know just the date.

6. Q. How long after your articles of incorporation were filed did your board of directors organize?

Mr. CAMPBELL. It seems to me the record would be the best evidence.

Mr. CLARK. I want to know if he knows.

A. No, sir.

7. Q. Have you your minutes here with you?

Mr. CAMPBELL. No; why should we have?

Mr. CLARK. I can ask.

8. Q. Have you your minutes here with you?

Mr. CAMPBELL. No; I told you.

Mr. CLARK. I am asking the witness.

9. Q. Have you your minutes here with you?—A. No, sir.

10. Q. You have served in the capacity of vice president ever since they have had a vice president?—A. Yes, sir.

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11. Q. Who is president of the company?—A. Mr. Causey.

12. Q. Mr. Dieter secretary and treasurer?—A. Yes, sir.

13. Q. What relation did Mr. Chappell sustain to the company?—A. I think he is one of the directors.

14. Q. And has been from the start?—A. I believe he has.

15. Q. How much money did the Hydro Electric Co. pay you for this deed [handing Government's Exhibit 16 to the witness]?

Mr. CAMPBELL. I object to the question on the ground that it is incompetent, irrelevant, and immaterial. Suppose he gave it to them.

The MASTER. I overrule the objection.

Mr. CAMPBELL. We will take an exception. I will ask your honor to instruct the witness not to answer that question and refer it to the court. I do not think they have any right to pry into the private affairs of the company.

Mr. CLARK. Let me ask one or two preliminary questions.

16. Q. You obtained a deed from a man of the name of—that question was not a fair question. I was referring to the wrong exhibit. [Referring to Exhibit 16.] A deed from J. A. Conway to the Hydro Electric Co. in which Conway transfers to the Hydro Electric Co., a corporation, certain mining claims therein described, the first one of which is called the Sunlight, I believe, I will ask you how much the Hydro Electric Co. paid to Mr. Conway for that deed?

Mr. CAMPBELL. Objected to as absolutely immaterial and incompetent. It does not show the good faith of any party one way or the other, the good faith of Mr. Conway or any person else. It is attempting to pry into the private affairs of the company, and the question is not fair. It may be there was a contract between them for certain other things. He asked how much money he paid, not what was the contract or what was given to Mr. Conway, or what else.

Mr. LANE. Furthermore, it assumes a fact not in evidence, namely, it assumes that the witness knows, whether he is merely the vice president, and not the treasurer at all.

The MASTER. Then he can answer that he does not know.

Mr. CLARK. Without any suggestion being made to him, he could answer that question point blank. The deed recites $10. He is vice president of the company. I want to know how much the company did pay to Mr. Conway for those mining claims.

The MASTER. If it paid no money, and in consideration of something else, he can answer that question also. I will overrule the objections on the theory that the good faith of these mining claims might be inquired into here. My ruling would follow on the same ground. The objection is overruled.

Mr. CAMPBELL. We will take an exception.

A. I don't know the amount paid, but I am positive that amount was paid, and possibly more than is recited in the deed.

By Mr. CLARK:

16. Q. Why do you say possibly more than $10 was paid to Mr. Conway?

Mr. CAMPBELL. We object to that. He can not cross-examine his own witness.

Mr. CLARK. I will withdraw that question.

17. Q. You said you were sure that $10 was paid to him? Are you sure that $10 was paid to him?

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Mr. CAMPBELL. I object to the question and ask your honor to certify this question as to whether or not the good faith of this man can be inquired into at this time.

The MASTER. The better way would be, if you want to go into that matter, to argue it fully before me.

Mr. CLARK. I should like to have the answer now.

Mr. CAMPBELL. We will not give the answer now.

Mr. CLARK. I submit I am entitled to the answer.

Mr. CAMPBELL. I instruct the witness not to answer.

The MASTER. I am not at all sure that you may not be right, Mr. Campbell. I am not at all sure that the master has the power to direct the answer. It will be a question of contempt that would have to be certified to the court. If you want to have that matter settled you had better take an adjournment now.

Mr. CLARK. I think we ought to be permitted to take this testimony. It does seem to me they should permit us to go ahead with this witness while he is on the stand and to interrogate him about this Conway location.

Mr. LANE. Go ahead and ask him whether the claims are mineral and what he is going to do.

Mr. CLARK. If Mr. Conway was here I fear he would tell you something that would surprise you as to what the officer told him. Let me proceed with the examination.

Mr. CAMPBELL. The young gentleman gets the idea that because the Government and the district attorney wants to ask questions that no one has a right to interfere. I do not want to be contumacious; I feel positive of the correctness of my conclusions, that they have not this right, and they have not the right to pry into the affairs of this corporation at this time. I do not want to put the witness in contempt, but I will instruct the witness for the purpose of having it certified, and having the record show that, not to answer those questions. But I would prefer, although I am not going to be here to-morrow, to argue the question before your honor. That is perfectly fair to you.

The MASTER. The gist of the objection is the same objection that is really, as far as I see, the gist of this case, or a branch of it; that is to say, whether we may now inquire collaterally into the good faith of this location. I have ruled thus far on the theory that they may, with the idea, of course, that on the argument of this matter it could be shown; if it can not the testimony in that regard will be disregarded. If you wish to present that matter right now, take a final ruling and take the matter up to the court and have that question decided; I presume it will be within your power to do it. I can not commit this witness to jail for contempt, but I can certify the question and the ruling.

Mr. CAMPBELL. On consultation, I will make the objection and let the witness answer subject to the objection throughout. But I object to the cross-examination of the witness.

The MASTER. It is possible that any objection to the form of the question may have escaped me, because I was in consultation with Mr. Brown.

Mr. LANE. The exceptions will be noted to all of this.

The MASTER. Yes.

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By Mr. CLARK:

18. Q. Are you sure $10 was paid?—A. I am, because it is charged up.

19. Q. Charged up to whom?—A. Charged up to him. I made a mistake in saying it was charged up. It was not charged up. I am positive the $10 was paid to him.

20. Q. What do you mean by charged up to him?—A. I meant to say paid to him.

21. Q. Did you know that Conway was going to locate these claims before he actually went on the ground and located them?

Mr. CAMPBELL. We object to that on the ground that it is absolutely immaterial whether he knew or not.

The MASTER. The objection is overruled.

Mr. CAMPBELL. We will take an exception.

A. I did not.

By Mr. CLARK:

22. Q. Did you have any talk with Mr. Conway about the subject of his locating mineral claims up there before he made you this deed?—A. I did not.

23. Q. Do you know how much the Hydro Electric Co. paid Mr. Francis Burke for the original of the deed, the certified copy of which I hand you, Exhibit 15, for certain mining claims?—A. I do not.

24. Q. As vice president of the company, did you know that the deed was obtained?—A. Mr. Dieter told me he had purchased the property.

25. Q. As vice president of the company, did you know that the deed was obtained?

Mr. CAMPBELL. I move to strike out the answer as hearsay testimony.

The MASTER. The motion is denied.

Mr. CAMPBELL. We will take an exception.

By Mr. CLARK:

26. Q. When did Mr. Dieter tell you that?

Mr. CAMPBELL. We object to that. It is seeking to introduce hearsay testimony.

The MASTER. The objection is overruled.

Mr. CAMPBELL. We will take an exception.

A. My answer would be I think it was August; I am not positive.

By Mr. CLARK:

27. Q. At the same time did he tell you that the Conway property had been purchased?

Mr. CAMPBELL. Objected to as leading and seeking to elicit hearsay testimony. Mr. Dieter has not any authority to bind the corporation.

The MASTER. The objection is overruled.

Mr. CAMPBELL. We will take an exception.

A. No, sir.

By Mr. CLARK:

28. Q. When did you first become aware of the fact that the Conway property had been purchased?

Mr. CAMPBELL. Do you want me to put these objections in each time?

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The MASTER. The same ruling will be made, the same objection entered, and the same exception.

A. I think some time in the early part of August.

By Mr. CLARK:

29. Q. What did Mr. Dieter say with respect to the amount of money that had been paid by the company to Mr. Burke for the claim?

Mr. CAMPBELL. Does your honor think that would come within the ruling?

The MASTER. The same ruling.

Mr. CAMPBELL. We will take an exception.

A. Mr. Dieter did not say what he paid for the claim. I do not know to this date what the amount was that was paid.

By Mr. CLARK:

30. Q. No discussion was had whatsoever of what was paid between you and Mr. Dieter at the time?—A. Not to my knowledge.

31. Q. How much stock do you own in the company?

Mr. CAMPBELL. We object to that.

Mr. CLARK. Will you admit he is a stockholder?

Mr. CAMPBELL. I am not going to give you any admission at all.

Mr. LANE. He is vice president; is that not enough?

The MASTER. Whom do you refer to?

Mr. CLARK. This man here. I want to know when they bought the Burke property what was paid for it.

Mr. LANE. If you saw the checks coming in and going out, and the work stopped on account of this investigation, you would know he would not know the details.

The MASTER. I sustain the objection.

By Mr. CLARK:

32. Q. Did you have anything to do with the purchase of the property from Mr. Mattly?—A. I did.

33. Q. Did you make the purchases?—A. I did.

34. Q. How much did you pay Mr. Mattly for the claims?

Mr. LANE. I think the court has told the witness he is not restricted to cash payments that he made them at that time.

A. That amount is paid.

By Mr. CLARK:

35. Q. You paid him $250 for 10 mining claims?—A. Yes, sir.

36. Q. Did you pay him the money yourself?—A. I paid him the money. What he owed me I deducted.

37. Q. What he owed you you deducted?—A. Yes, sir.

38. Q. How much did he owe you?

Mr. CAMPBELL. We object to that.

A. I have his notes yet.

By Mr. CLARK:

39. Q. I want to get at how much approximately was in debts and how much when you bought the property from Mr. Mattly.

Mr. CAMPBELL. It does not make any difference.

Mr. LANE. He has not showed Mr. Mattly was unable to meet his debts. He has already shown he is a big rancher.

The MASTER. I will allow the question; the objection is overruled.

Mr. CAMPBELL. We will take an exception.

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By Mr. CLARK:

40. Q. How much was in debts and how much in cash?—A. I don't remember. There was, I think $150 in cash that he drew at one time.

41. Q. Was that an existing debt when this transfer was made?—A. Yes, sir; he had had an existing debt here for years with me.

42. Q. With you?—A. Yes, sir.

43. Q. Was the whole of it a debt?—A. No, sir.

44. Q. How much was cash?—A. $100 or $150.

45. Q. How long had the debt existed upon which you gave him a credit of $100 or $150?

Mr. CAMPBELL. It is absolutely immaterial.

The MASTER. I do not consider that is a proper question. The point you are trying to get at is, whether or not cash actually passed on this transaction. Is that not a fact?

Mr. CLARK. Yes; in a measure. And to show what the appraisement of the claims were at this time.

Mr. LANE. This will open up a broad scope. We will be obliged to show that Mr. Mattly was absolutely good for that $150.

By Mr. CLARK:

46. Q. How much did the Hydro Electric Co. pay you for the 10 claims which you got from Mr. Mattly?

Mr. LANE. We object to that on the ground and for the reason that it is wholly immaterial, as the purchase was already made from the locator, the $250 paid, and what evidence of good faith or lack of good faith could there be between Mr. Cain and the company.

The MASTER. I overrule the objection.

Mr. CAMPBELL. We will take an exception.

A. The same amount was paid.

By Mr. CLARK:

47. Q. The same amount was paid in cash?—A. Yes, sir.

48. Q. Did you get the cash?

Mr. CAMPBELL. We object to that.

By Mr. CLARK:

49. Q. Did you actually receive the money from the company?

Mr. CAMPBELL. What is the difference. We object to it.

The MASTER. The objection is overruled.

Mr. CAMPBELL. We will take an exception.

A. I received a check, not from this company. I received it from Mr. Metson.

By Mr. CLARK:

50. Q. Do you know Mr. W. H. Metson?—A. I received the money from Mr. W. H. Metson.

51. Q. The attorney for the company?

Mr. CAMPBELL. You assume that which is not a fact.

Mr. CLARK. I thought Mr. W. H. Melson was attorney for the company.

Mr. CAMPBELL. Not in this case, but Mr. Metson is one of the largest owners in it.

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By Mr. CLARK:

52. Q. Did you at any time have any discussion with Mr. Dieter about obtaining these mining claims so that you would have a right of way across the land without obtaining permission to go across from the Government?—A. I never did.

53. Q. That subject was never discussed and never considered by you?—A. We never did expect to go across those claims.

54. Q. Did you go across them?—A. I have been over them at different times.

55. Q. Did you go across them with your pipe line?—A. No, sir.

56. Q. Did you go across them with your ditch?—A. No, sir; not the Mattly claim.

57. Q. I mean the other claims. Did you understand my question to relate to the claims which were obtained from yourself or the claims which were obtained from Mr. Conway and Mr. Burke?—A. The claims obtained by myself.

58. Q. Did you ever discuss with Mr. Dieter the subject of obtaining these mineral claims so that you might be able to cross those claims with your pipe line without obtaining a permit from the Government?—A. I have no recollection of it.

59. Q. You have no recollection of it?—A. No, sir; I have not.

60. Q. Did that thought ever enter your mind in the obtaining of these deeds?

Mr. CAMPBELL. I will object to that.

The MASTER. I will sustain the objection. It does not appear plain what you mean by these claims.

Mr. CLARK. The claims obtained from Conway and the claims obtained from Burke.

61. Q. You understand that?—A. Yes, sir.

62. Q. When first to your knowledge did the company state to any officer in the Forestry Department that because of the fact it had these mineral claims it had the right to cross that land without obtaining a permission from the Government?

Mr. CAMPBELL. I object to that, because it is not shown that they ever did make such a statement, assuming that they did.

The MASTER. I overrule the objection.

Mr. CAMPBELL. We will take an exception.

A. No officer stated to me those facts.

By Mr. CLARK:

63. Q. Would this pipe line have been built by your company for the purpose of developing these claims for which $250 has been paid, and for which $20 has been paid?

Mr. CAMPBELL. I object to that. The statute does not contemplate any such thing. It is to me absolutely an absurd proposition.

The MASTER. I overrule the objection.

Mr. CAMPBELL. We will take an exception.

A. No, sir.

By Mr. CLARK:

64. Q. How much development work has the Hydro Electric Co. done upon the claims for which $250 have been paid, or upon the claim for which $20 was paid?

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Mr. CAMPBELL. I object to the question upon the ground that it does not tend to show the good faith one way or the other.

The MASTER. I will overrule the objection.

Mr. CAMPBELL. We will take an exception.

A. With the group of claims, including the Goleta claims.

By Mr. CLARK:

65. Q. No; I am asking you about these claims you bought.—A. These are only a portion of the claims that belonged to the Goleta that were purchased in addition to the other property.

66. Q. I am asking you in addition to the claims that you bought. Let me ask you this question: Has any development work been done upon the claims bought from Conway?

Mr. CAMPBELL. By this company?

Mr. CLARK. Yes.

A. Not by this company.

67. Q. Has any development work been done on the claim bought from Francis Burke?—A. I am not positive. I think there is a tunnel there of about 300 feet.

68. Q. When was it put in there?—A. By J. B. Hammond.

69. Q. When?—A. Twenty years ago.

70. Q. This company was organized in May.

Mr. CAMPBELL. He is asking about this company.

A. None.

By Mr. CLARK:

71. Q. It is your intention to transmit power over these lines which are already constructed, and to use that power in mining and for selling it, is it not?—A. The lines are not constructed.

72. Q. As soon as they are constructed?—A. It is.

An adjournment is here taken until Friday, September 9, 1910, at 10 a. m.

FRIDAY, SEPTEMBER 9, 1910.

JAMES S. CAIN.

Cross-examination by Mr. CAMPBELL:

1. X Q. This real estate which is the subject matter of this controversy is in what county?—A. Mono County.

2. X Q. How long have you lived in Mono County?—A. Thirty years.

3. X Q. What has been your business since you have been living there?—A. Mining, principally.

4. X Q. Are you familiar with these mining claims that have been presented to your attention, the Mattly claim, the Conway claim, and the Burke claim?—A. I am.

5. X Q. How long have you known them?—A. I have known the Hammond claim, now the Burke and Conway—I am not positive just where that tunnel is on—for over 20 years.

6. X Q. Have you ever had occasion to examine to determine whether or not each and all of these claims, particularly the claims the

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subject matter of this controversy, the Johnnie Con claim, the High Grade claim, the Sunlight claim, the Wolf claim, the Eagle claim, and the Lone Pine claim contain mineral?—A. I have been over a portion of them, over all of the claims, but have not made any examination, only looking at the floor rock on two or three.

7. X Q. Do you know the vein that runs through that portion of the country—what do you call it?—A. The Goleta Consolidated?

8. X Q. Yes.—A. I have been in the mine.

9. X Q. Kindly explain to the court just the situation in relation to the hanging wall and the foot wall of that vein in relation to these claims in controversy.—A. The Goleta vein is supposed to pass right through this ground, running south from the Goleta and the Mattly, which was the extension, and some of them on the west. I purchased those claims, as I considered them valuable.

10. X Q. The other claims; do you know anything about the value of the Johnnie Con, the High Grade, the Sunlight, and the Eagle?—A. I consider the vein passes through those same claims.

11. X Q. Mr. Cain, at the present time in Mono County and in the immediate vicinity of these claims, what does it cost by steam per horsepower for horsepower?—A. It costs us as a rule $30 for horsepower.

12. X Q. How much do you figure it will cost per horsepower by the use of this electricity?—A. About $6.

13. X Q. Do you figure, it is your opinion as a mining man, being familiar with that country, that by the use of this power you will be able to develop that country; and if so, how much of it?—A. I do.

14. X Q. These claims and the Lattly claims—by these claims I mean the ones I have mentioned to you, the High Grade, the Wolf, the Eagle, and the Johnnie Con—do you know the intention of the company defendant in relation to working those claims, if they are able to get this power?—A. They intend to work the property, the Goleta Consolidated, and the veins extending south. We intend to drift south from the Goleta.

15. X Q. State to the court what is the intention of this company in relation to the use of this power, what they intend to do with it, with their own, and what persons they intend to furnish it to, and for what purpose.—A. The main object was to install this power for the Bodie mines and the Aurora mines, and if there was any extra power to furnish it to others—to the Lucky Boy.

The MASTER. Where is the Goleta?

A. Adjoining these mines.

By Mr. CAMPBELL:

17. X Q. Are these mines all in the vicinity of Bodie?—A. The Goleta mines are right close to the power plant, the Bodie mines are in Bodie, and the Aurora are right in the town of Aurora.

18. X Q. By the Bodie mines what do you mean, the Southern Development?—A. The Southern Consolidated.

19. X Q. How many mines are in that group?—A. 14.

20. X Q. Have they ever been worked?—A. They have.

21. X Q. What was the result of the working of them?—A. At the time they were running there I was contracting to furnish them with wood. They were consuming 20 cords of wood per day.

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22. X Q. Did they have to stop the working of the Southern Consolidated mines by reason of the excessive cost?—A. The Southern Consolidated Co. stopped, waiting for this power. That was two years ago.

24. X Q. The Goleta Mines, have they ever been worked?—A. They have.

25. X Q. Do you know whether or not they propose to start up as soon as they get this power?—A. We have talked over starting up before we get the power, beginning development work.

26. X Q. Is it the purpose of the company, the defendant, to use this power for the purpose of developing the Johnnie Con, the Eagle, the Wolf, the High Grade, and Pine Tree?—A. In addition to the other claims, the Mattly claims and the Consolidated.

27. X Q. About how much money is invested in the Southern Consolidated Mines, if you know?—A. The present company has invested there about $100,000.

28. X Q. You do know, do you not, that by cheap power they can be worked to advantage? You have worked the tailings of a great many of those mines by the cyanide process, have you not?—A. We have.

29. X Q. How much money is invested in the old Goleta mines?—A. About $380,000.

30. X Q. How much money is invested in the Aurora mines?—A. Over $200,000.

31. X Q. These were all mines that have been worked but they had to cease work by reason of the excessive cost; is that a fact?—A. They were.

32. X Q. Were these Mattly claims ever worked?—A. They were.

33. X Q. By whom and when?—A. They were worked in about 1881 and run by smelter with water power coming right over the hill.

34. X Q. How much money up to the present time, if you know, has this company expended in the purchase of property, including the water rights and the building of its structure?—A. I do not know positively; I think about $250,000.

35. X Q. In the neighborhood of $250,000?—A. Yes, sir.

36. X Q. How much money do they contemplate expending in the completion of this power line for the purpose you have mentioned?—A. $200,000 more.

37. X Q. From whom, if you know, were these water rights purchased, and of what do they consist?—A. The original purchase?

38. X Q. I mean from whom did this defendant company get their water rights and how much did they pay for them?

Mr. Clark. Objected to as not the best evidence, if there is a deed.

The Master. I overrule the objection.

Mr. Clark. I will take an exception. And it is also calling for a conclusion, and is incompetent.

The Master. The same ruling.

Mr. Clark. I will take an exception.

A. They purchased the water rights from the Goleta Consolidated Mining Co., I think for $14,000, and purchased the Virden water rights for $4,200, and the Thompson water rights for $9,000. I am not positive about some others.

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By Mr. CAMPBELL:

39. X Q. Did you purchase from this man, Johnnie Con, any property including water right?—A. His water right was sold to this company.

40. X Q. Sold to this company?—A. Its predecessors.

41. X Q. This water is taken from what place?—A. Lundy Lake, on Mill Creek.

42. X Q. You intend to conduct it by means of this water pipe to what place?—A. To near Jordan.

43. X Q. Then what do you do with it when you are through with it for the purpose of generating the power; where do you turn it?—A. Right back into the ditch again for the Conway ranch, known originally as the Sturgeon ranch.

44. X Q. So that you purchased the use of the water for these various amounts of money, you take it from Mill Creek to a certain place, and turn it back into the ditch?—A. Yes, sir.

45. X Q. Do you know, from your knowledge of that country, how long these various people, Mr. Conway, the Goleta Mining Co., and the other people, have used that water prior to the purchase of it by this defendant?—A. I think the waters to the Conway ranch have been used for 25 years continuously.

46. X Q. And the Virden ranch?—A. The Virden ranch about the same length of time; the Thompson ranch I guess longer.

47. X Q. How long has the Goleta Mining Co. used this water which was purchased by the defendant company?—A. I am not certain of the date, but I think from 8 to 10 years.

48. X Q. Do you take the water from the ditches of any of these persons, or have you constructed a new ditch for your water pipe?—A. A new pipe line.

49. X Q. A pipe line?—A. Yes, sir.

50. X Q. Is that the water that was wont to flow through this old ditch that is marked on the map "The Old Goleta Ditch"?—A. Yes, sir.

51. X Q. The water ran down formerly through that and over this land?—A. Yes, sir.

52. X Q. To get your power line you have straightened that ditch?—A. Raised it about 200 feet.

The MASTER. I do not know whether the map that is in evidence shows it or not.

Mr. CLARK. The map shows the route of the two ditches, the old and the new.

Mr. CAMPBELL. It runs over the same land we are disputing about. That is a fact.

Mr. CLARK. Yes.

By Mr. CAMPBELL:

53. X Q. All you have done is to change the place through which the water runs through this particular land in controversy?—A. About 200 feet higher elevation on the side of the hill.

54. X Q. Is it the intention of this company to cover up this pipe?—A. It is. A portion of it is covered now.

55. X Q. What is the character of this pipe; is it iron or redwood pipe?—A. Redwood.

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56. X Q. Do you know what was the effect on the land of the old ditch in relation to washing out?—A. They could not convey the water there safely. It would break out down the hill; the ground was soft and the water would cut out the ditch.

57. X Q. Kindly describe the character of that land, this particular quarter of land which is the matter in controversy?—A. It is barren land, very little vegetation, with float mineral over the ground, and the ledge running right through a portion of it.

57. X Q. A mineral ledge?—A. Yes, sir.

58. X Q. Is it the same ledge as the Bodie and Southern Development Co.?—A. The same ledge as the Goleta.

59. X Q. In your opinion, from the knowledge which you have of that country and the knowledge you have of this work, and the knowledge which you have of the character of this soil over this Government land, is the construction of that pipe line and covering it up as you intend to, going to damage that property in any manner, shape, or form whatsoever?—A. I don't think it damages it any.

60. X Q. You have cut no trees; there are no trees to cut?—A. There are a few on that quarter section.

61. X Q. But this defendant has cut none?—A. None.

62. X Q. It has done nothing but dig a trench for the pipe or grade off a place to lay the pipe?—A. To lay the pipe.

63. X Q. About how many miner's inches of water does this company defendant contemplate using from this lake through this creek and through this pipe line?—A. About 100 and upward. I don't suppose it will exceed 1,500 inches.

64. X Q. You stated that part of this water was obtained from the Goleta Mining Co.?—A. The rights to use it from the Goleta, the ownership of 50 inches of water, and the right to use 750.

Mr. CAMPBELL. I have here, and offer as a part of the cross-examination, for the inspection of counsel and your honor, a decree of the Superior Court of the County of Mono adjusting and adjudicating these water rights, made and entered into on the 16th day of March, 1901, giving the ownership in 50 inches and the right of the use for this purpose of 750 inches of one Sturgeon. Mr. Sturgeon then deeds to three separate companies and they deed to the Goleta Consolidated Mining Co., and the Goleta Consolidated Mining Co. deeds to this defendant. Those are the original deeds. Do you want to examine them?

Mr. CLARK. No objection.

The MASTER. Let them be admitted. The decree in Miller *v.* Dechanbeau will be admitted as respondent's Exhibit 1.

The deed is marked "Respondent's Exhibit 1."

Mr. CLARK. What is the date of the deed from the Goleta Mining Co. to the Cain Consolidated?

Mr. LANE. July 29, 1910, if I remember correctly.

The MASTER. The deed of Sturgeon to Tichenor of July 10, 1906, will be respondent's Exhibit 2.

The deed is marked "Respondent's Exhibit 2."

The deed of J. F. and Alice Tichenor to the Montecito Mining Co., the Goleta Mining Co., and the Sterling Mining Co. will be respondent's Exhibit 3.

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The deed is marked "Respondent's Exhibit 3."

The deed of the Goleta Mining Co., the Montecito Mining Co., and the Sterling Mining Co., to the Goleta Consolidated Co. will be respondent's Exhibit 4.

The deed is marked "Respondent's Exhibit 4."

The deed of the Goleta Consolidated Co. to the Hydro Electric Co., dated July 29, 1910, will be respondent's Exhibit 5.

The deed is marked "Respondent's Exhibit 5."

By Mr. CAMPBELL:

65. X Q. Were you ever interested, Mr. Cain, in power plants prior to joining this company?—A. No, sir.

66. X Q. You contemplated at one time before this company came in there endeavoring to use power on the Southern Depelopment Co., did you not?—A. Principally the Cain Consolidated Mining Co.

67. X Q. But that never amounted to anything?—A. We sold out of that property—the Cain Consolidated.

68. X Q. Now, Mr. Cain, how did you come to buy this group of mines from Mattly?—A. I was advised by Mr. Roberts, who was the president of the Goleta Consolidated Co., to secure those mines.

69. X Q. There was some little hesitancy on your part, and I do not think there is anything wrong about it—counsel asked you about your payment of $250. You are a banker in Mono County?—A. I have a broker's office there.

70. X Q. You keep a store also?—A. Yes, sir.

71. X Q. Is there now and has there been for a long time past the relation of debtor and creditor between you and Mattly?—A. Yes, sir.

72. X Q. You took these over and gave him credit and he drew down $160, and you charged that up to his account?—A. I don't recollect the amount, but I know he drew at times $100 to $150 and has drawn more.

73. X Q. He comes to you and gets money and you charge it to him, if you purchase anything from him, and he pays you for it. You credit him with it. Is that the way?—A. Yes, sir; I have an account with him.

74. X Q. That is the way you paid for these claims?—A. He drew some cash that day that I remember. I am not positive if he drew the full amount or not. I am positive it was $100 or $150. I think $150 cash and the balance was credited to him.

By Mr. LANE:

75. X Q. Who is this Mr. Roberts that you refer to? You said that he was connected with the Goleta. Can you describe him any further?—A. He was Stephen M. Roberts, of Berkeley, and president of the Goleta Consolidated Co. for years. I have had lots of business with him; sold him lots of material.

76. X Q. Was he the man officially in charge of the operations of the Goleta Consolidated claims?—A. Yes, sir.

77. X Q. Did he ever tell you whether in those claims they penetrated into the Goleta vein?—A. He said crosscut it 160 feet into the Goleta vein and had not come to the footwall.

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78. X Q. Tell us in which direction the vein runs—the lineal direction?—A. In a northerly and southerly direction.

79. X Q. Does that vein follow substantially according to the trend of the claims Golden Eagle, Apex, Paraclete, Iron Mountain, Mattly No. 10, Mattly No. 8, and so on down through the Lone Pine, High Grade, Johnnie Con, and Sunlight? Is that the general trend of it?—A. That is the general trend of the vein running south.

80. X Q. What is the direction of the pitch of that vein?—A. The dip is to the east.

81. X Q. To the east?—A. Yes, sir.

82. X Q. What direction were those tunnels and workings on the Goleta claims? What direction were they run in?—A. From the east to the west.

83. X Q. Did they cut the hanging or the foot wall?—A. The hanging wall.

84. X Q. These four claims—Golden Eagle, Apex, Paraclete, Iron Mountain—are those patented mining claims?—A. Yes, sir.

85. X Q. Are they the claims that you have referred to as the Old Goleta workings?—A. Yes, sir.

86. X Q. Now, in the running of those tunnels in the Old Goleta workings in this Goleta vein, which trends as you have described, how far would they penetrate into the vein from the hanging wall?—A. In one of the veins 160 feet.

87. X Q. Did they penetrate as far as the footwall? Did they go clear through the vein?—A. No, sir.

88. X Q. Did they find the footwall?—A. They have not yet.

89. X Q. Did Mr. Roberts, prior to your purchase of these Mattly claims and of these other mining claims lying southerly therefrom, ever give you his opinion as to where the footwall of that vein would be found?—A. He said he never went through the vein, and advised us to continue the crosscut through the vein.

90. X Q. Did Mr. Roberts, prior to your purchase of these claims that I have referred to, ever tell you what kind of ore he took out from there?—A. I don't know that he did, but I had been there and een the ore myself.

91. X Q. You have been there and seen the ore yourself?—A. Yes, sir.

92. X Q. Did you ever have any business connection with the working of those old Goleta claims at all, directly or indirectly?—A. Yes, sir; I had considerable. I have furnished them with large lots of materials and supplies.

93. X Q. Did you furnish them with any wood or fuel?—A. No fuel; only stone coal for blasting.

94. X Q. They operated those mines by water power, did they?—A. Yes, sir.

95. X Q. By direct water power?—A. Yes, sir.

96. X Q. From this old Goleta power ditch?—A. Yes, sir; that is the old Goleta ditch.

97. X Q. Did you ever loan them any money in the operation of those mines?—A. I have advanced them considerable money.

98. X Q. About how great would the advances run?—A. Between $8,000 and $9,000 on their pay rolls.

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99. X Q. You mean in order to meet their pay rolls?—A. Yes, sir.

100. X Q. Now, when were you loaning them that money—how long ago?—A. I think it was about 1896.

101. X Q. When did you first form the intention of purchasing those claims?—A. I am not certain, but I think it was a year ago this month that I had the option from Mr. Roberts.

102. X Q. Did you ever consider the advisability of purchasing those claims or getting control of them while you were loaning this money to them?—A. I did.

103. X Q. You considered the value of them as early as that time?—A. I did. We were trying to secure the property.

104. X Q. Now, Mr. Cain, what was the primary object—and I mean by that the first object in order—what was the first intention or object that suggested to you the development of this power in question? Was it the generation of commercial power for sale or for some other object?—A. For the Cain Consolidated only; that was our first intention.

105. X Q. For the Cain Consolidated only, or do you mean——A. (interrupting). For any parties in Aurora that wanted to use the power. We had no place to take the power at that time.

106. X Q. Later you sold out the Cain Consolidated, did you?—A. Yes, sir.

107. X Q. After these conversations which you heard described by the preceding witnesses when you were discussing the Cain Consolidated, did you afterwards sell out entirely, or have you been at all times since those conversations interested in the Cain Consolidated Co.?—A. I sold out entirely, and have acquired a small interest since.

108. X Q. Did that Cain Consolidated Co. that you were discussing with those officers have any connection with this Goleta property? A. None whatever.

109. X Q. Or with this power property?—A. None whatever.

110. X Q. For the development of that?—A. No, sir.

111. X Q. After you purchased this Goleta property and these Mattly claims, was it after that purchase of the Goleta property that you began operations on this power plant?—A. Mr. McCone and the Cain Consolidated Co. had purchased the Goleta at first; later we sold it out to the present company.

112. X Q. The defendant company in this case?—A. Yes, sir.

113. X Q. Do you know Mr. Hammond?—A. Mr. J. P. Hammond?

113. X Q. Yes; Mr. J. P. Hammond.—A. Yes, sir.

115. X Q. How long have you known Mr. Hammond?—A. Since 1879.

116. X Q. Since 1879, in Mono County?—A. Yes, sir.

117. X Q. Is Mr. Hammond a mining man of experience, or not?—A. Yes, sir; he was following mining in 1879 and 1880, when I first knew him in Aurora.

118. X Q. There has been some reference here to Mr. Mattly being a rancher; is Mr. Mattly a mining man of experience or not?—A. He has been ranching and mining; he was mining principally in Aurora until four of five years ago; he sold out in Aurora, and purchased that ranch he is on now.

119. X Q. He sold out four or five years ago and purchased the ranch?—A. Yes, sir.

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120. X Q. What did he sell out?—A. He had a lease and bond on the Summit Mine in Aurora.

121. X Q. He sold out that mining property four of five years ago and purchased his ranch, did he?—A. Yes, sir.

122. X Q. Do you know anything of the Hammond Tunnel that was run upon the property described in the bill of complaint in this suit?—A. I do.

123. X Q. Do you know what one of these present claims that tunnel was run upon?—A. I don't know exactly. The dump of the tunnel comes down to the old Goleta ditch. I have been on the ground there two or three times.

124. X Q. The point where the dump of this tunnel that you have referred to is farther south, or is it not as far south as the ditch projected in this case?—A. It is south, right close to the old Goleta ditch, which is about 200 or 300 feet south of the pipe line.

125. X Q. Then the Goleta Consolidated mines that you have referred to, which were developed this 168 feet into the vein, lie northerly, and this Hammond Tunnel lies south of the ditch projected in this case, does it?—A. The Goleta Consolidated Tunnel or cross cut is running from the east to the west.

126. X Q. I say the properties are north and the Hammond Tunnel is south of the ditch involved in this case?—A. I did not understand the question.

127. X Q. The Goleta Consolidated properties which have been tunneled are north?—A. Yes, sir.

128. X Q. And the Hammond Tunnel is south of the ditch?—A. Yes, sir.

129. X Q. The location of it is south of this ditch?—A. Yes, sir.

130. X Q. Do you know whether that tunnel, the Hammond Tunnel, which lies south of this ditch, also disclosed gold-bearing vein matter in place?—A. Yes, sir.

131. X Q. Did it?—A. Gold and copper.

132. X Q. It did?—A. Yes, sir.

Redirect examination by Mr. Clark:

1. R. D. Q. How long ago was it since the Hammond Co. was at work?—A. About 20 years.

2. R. D. Q. Have you ever been in it?—A. I have been in the mouth of the tunnel; I did not go to the end of the tunnel.

3. R. D. Q. When did the Goleta Mining Co. cease operations?—A. I think between 1896 and 1897.

4. R. D. Q. 1896 and 1897?—A. No, sir; I think it was later than that. I am not positive on that.

5. R. D. Q. About when—you have lived there all these years—you say this company dealt with you and you paid its pay roll?

Mr. Lane. It might refresh his memory by referring to those deeds.

A. I think it was later than that. I think they were operating about 1904.

By Mr. Clark:

6. R. D. Q. Do you know whether it is a fact that any water has been run in the old Goleta ditch since 1902?—A. I think it is. I think it has been running since 1902.

7. R. D. Q. Do you know?—A. Not positively.

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8. R. D. Q. You said something about 1896 or 1897, fixing the time that the Goleta Mining Co. quit its operations. How long after the Goleta Mining Co. quit its operations, its mining, was it before the water ceased to run in the Goleta ditch?

Mr. LANE. He changed that date.

A. Possibly one or two years.

By Mr. CLARK:

9. R. D. Q. What was it kept running for?—A. The mine?

10. R. D. Q. What was the water kept running one or two years for after the mine ceased operations?—A. They used the water there for their power purposes for running a compressor.

11. R. D. Q. In connection with what?—A. They had small drills in the mine.

12. R. D. Q. They were still operating?—A. Yes, sir.

13. R. D. Q. After they quit operating, what was the object of object of running water in the Goleta ditch?—A. I do not know that they did do that.

14. R. D. Q. The Old Goleta ditch for a great many years has been in a dilapidated condition and unfit for use in running water?—A. The snow broke down the flume and they did not run water.

15. R. D. Q. That condition of affairs has existed for a good many years?—A. A great many years.

16. R. D. Q. Distinctly, to your knowledge of the Goleta Mining Co., there has been no mining in the Goleta mine for four or five years?—A. Nothing has been done there for four or five years.

17. R. D. Q. You do not know of any mining operations being conducted on the Mattly claim, do you?—A. There has been in the last two years.

18. R. D. Q. Who did it?—A. E. Sanderson Smith had a bond to purchase those mines.

19. R. D. Q. Do you know whether those were precisely the claims as the Mattly claims 1 to 10?—A. I do not know whether they are precisely the same.

20. R. D. Q. Do you know whether the work done by Smith was on these claims Nos. 1 to 10?—A. I do.

21. R. D. Q. Were you there?—A. I have been there. I was not there at the time.

22. R. D. Q. Did you see the work he did?—A. At a distance I could see them dumping.

23. R. D. Q. How much work did they do?—A. I am not positive on that. I think they had three men working there, and four at times, for several months.

24. R. D. Q. You say you discussed with a man by the name of Roberts the matter of obtaining the Mattly claims?—A. Yes, sir.

25. R. D. Q. You discussed this with a man of the name of Roberts?—A. Yes, sir.

26. R. D. Q. Did you talk over with Mattly the value of these claims?—A. I did not. I did not want anyone to know the value of them.

27. R. D. Q. Did you not have some discussion with Mr. Mattly when you fixed on the price of $250?—A. Yes, sir.

28. R. D. Q. Then you did talk over with him this matter?—A. Yes, sir.

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29. R. D. Q. Did you dicker with him some before you fixed the price at $25 a claim?—A. Yes, sir.

30. R. D. Q. What did you tell him that you thought they were worth in that dickering?—A. I told him there was no value to them. I did not think there was, because he could not work them.

31. R. D. Q. Did you name a price or, in the dicker with him, fix any price under $250?—A. I did. I offered him $100 for the claims.

33. R. D. Q. You knew of this work that Smith had done on them at the time?—A. Yes, sir.

34. R. D. Q. How long before this did you know that Mattly had located those claims?—A. I knew he located them about the 1st of January, because I was watching the claims myself.

35. R. D. Q. About the 1st of January?—A. I could not get there on account of the storm.

36. R. D. Q. Did Mattly tell you he had located them?—A. He did.

37. R. D. Q. Did he tell you he was going to locate them before he did locate them?—A. He said he thought well of the claims. He told me this. The claims were located by H. F. Cavin.

38. R. D. Q. You were thinking at that time of getting these claims?—A. I intended to locate them for the past year, whenever they were opened.

39. R. Q. D. Did you have any different opinion with respect to the claims that lay immediately south of the Mattly, the High Grade, Pine Tree, and Johnnie Con?—A. There was one claim there or two that I wanted to get.

40. R. D. Q. Did you think they were of equal value with the Mattly claims?—A. No, sir.

41. R. D. Q. You did not think so?—A. No, sir.

42. R. D. Q. Did you think they were worth else?—A. These others were adjoining the Goleta, and I wanted to get them particularly; I had been advised by Mr. Roberts to get them.

43. R. D. Q. You had already been advised by Mr. Roberts to get them?—A. Yes, sir.

44. R. D. Q. Did you know Mr. Conway was going to locate those claims?—A. I did not.

Mr. CAMPBELL. That is repetition; you asked that before.

By Mr. CLARK:

45. R. D. Q. You did not know that?—A. No, sir.

46. R. D. Q. If you wanted those claims why did you not locate them?—A. I thought there was plenty of time to get them.

47. R. D. Q. How long prior to January 1, 1910, had the Cain Consolidated Mining Co. been incorporated?—A. I think about eight years.

48. R. D. Q. You had had, had you not, several priors to January 1, 1910, to locate those claims if you desired them?—A. Yes, sir.

49. R. D. Q. I believe you stated you did not discuss with anyone the value of the Conway claim or the Burke claim before they were purchased?—A. Not to my knowledge.

50. R. D. Q. Had the Cain Consolidated Co. began doing any work on this pipe line before its interests passed to the Hydro Electric Co.?

Mr. LANE. We object to that as assuming something not in evidence. There is no evidence that that did pass to the Hydro

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Electric Co. They sold out to other parties. It did not, as a matter of fact.

A. Nothing.

By Mr. CLARK:

51. R. D. Q. Did the interests of the Cain Consolidated pass to the Hydro Electric Co.?—A. The interests of the Cain Consolidated were deeded to W. H. Matson.

52. R. D. Q. Did they pass from W. H. Matson to the Hydro Electric Co.?—A. I am not positive.

53. R. D. Q. You do not know that, then?—A. No, sir.

54. R. D. Q. You are vice president of the Hydro Electric Co.?—A. Yes, sir.

55. R. D. Q. You would know, would you not? Was it your intention as vice president of the Hydro Electric Co. to have transferred to the interests of the Cain Consolidated Co.?—A. I have some interest in the Cain Consolidated, and I did not know that would be transferred over to the Hydro Electric.

56. R. D. Q. What, generally, is the nature of the property of the Cain Consolidated?—A. Fifty-one mining claims in the Cain Consolidated.

57. R. D. Q. Has the Cain Consolidated Mining Co. any interest in the Mattly claims, the Conway claims, or the Burke claim?—A. I do not know that they have.

58. R. D. Q. Why do you say you do not know that they have? Is that because you have some doubt as to the effect of papers that——A. No, sir; because we have some interest in the Mattly claims, and have some in the Consolidated. There are lots of papers we have not completed yet.

59. R. D. Q. Is it your intention to have a separate company called the Cain Consolidated Co.?—A. I believe it is.

60. R. D. Q. You know, don't you? That is your intention?—A. That is the intention if the Hydro does not buy the property.

61. R. D. Q. It is also the intention, is it not, of the Hydro Electric Co. to sell power to the Cain Consolidated Co.?—A. To furnish the power to the Cain Consolidated, and we will have to pay for it.

62. R. D. Q. That has already been discussed, has it not?—A. Some.

63. R. D. Q. By the officers of the two corporations? Where are the mines of the Cain Consolidated Co.?—A. In Aurora, Nev.

64. R. D. Q. Are the mines at Aurora mines that have been worked for a good many years?—A. Since 1861. They have not been worked continuously.

65. R. D. Q. And still in operation?—A They are not.

66. R. D. Q. Where is the first place in these various mines that you intend conducting your power to?—A. They are already building the line for Bodie.

By Mr. CAMPBELL:

67. R. D. Q. Do you mean by Bodie, for the town of Bodie?—A. For the Southern Consolidated Mining Co.

By Mr. CLARK:

68. R. D. Q. How much mining property has the Southern Consolidated Mining Co.?—A. They have 14 claims.

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69. R. D. Q. Is that an old mine that has been in operation for some time?—A. In operation since 1879.

70. R. D. Q. It is still in operation?—A. We are operating now. It was closed for a few years.

71. R. D. Q. You are interested in that mine, too?—A. Yes, sir.

72. R. D. Q. That is mining property that does not belong to the Hydro Electric Co.?—A. No, sir; but the same people hold it as hold the Southern Consolidated.

73. R. D. Q. Is it a separate corporation?—A. Yes, sir.

74. R. D. Q. Entirely separate and distinct?—A. Yes, sir.

75. R. D. Q. Have you already entered into negotiations with the mining company at Bodie for the purpose of arranging the terms and conditions under which that company shall obtain power from the Hydro Electric Co.?—A. We have not made any terms. We are installing the compressor and ordered the material for the electric installation.

76. R. D. Q. That is the first place that will be supplied with power by the Hydro Electric Co.?—A. One of the first. It will be at the same time.

77. R. D. Q. You are getting ready there first?—A. Yes, sir.

78. R. D. Q. After that Aurora?—A. Yes, sir.

79. R. D. Q. Are you interested in the mines at Aurora?—A. Yes, sir.

80. R. D. Q. In the company there?—A. Yes, sir.

81. R. D. Q. Is that a separate and distinct company from the company that owns the mines at Bodie?—A. Yes, sir.

82. R. D. Q. That company also intends to obtain power from the Hydro Electric?—A. Yes, sir.

83. R. D. Q. What mines are there at Lucky Boy that intend obtaining power from the Hydro Electric Co.?—A. The Goldfield Alamo. No contract is made.

84. R. D. Q. Are you interested also in that corporation?—A. No, sir.

85. R. D. Q. How long have the mines been in operation in Lucky Boy that are to be supplied with power?—A. About three years.

Mr. CAMPBELL. Do you understand that question, Mr. Cain, the latter part of it, "that are to be supplied with power"?

A. There is no contract or agreement for power with them people.

By Mr. CLARK:

86. R. D. Q. Have you had negotiations with those people for the purpose of ascertaining whether you will supply them with power?—A. They wanted to get power from us, they said.

87. R. D. Q. Is that the reason why you have already commenced to string your poles along between Aurora and Lucky Boy?—A. Yes, sir. There is no other place for them to get power.

88. R. D. Q. You know they do intend to get power from you, and you intend to supply them with power; is that a fact?—A. We do, if they will take it.

89. R. D. Q. You have very strong assurances they will take power at Lucky Boy or you would not be distributing your poles along?—A. There are one or two other claims in there which may use a little power.

90. R. D. Q. Whose claims are they?—A. I think they are individual claims belonging to McCormick.

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91. R. D. Q. Coming back now, between Lucky Boy and Aurora, are there any places where you expect to supply power?—A. There are no places that have done any legitimate development work. A place called Ramona, we may be able to furnish them with some.

92. R. D. Q. Who owns the mining land at Ramona?—A. I don't know.

93. R. D. Q. Is that the only place between Lucky Boy and Aurora?—A. That is all.

94. R. D. Q. Between Aurora and Bodie are there any mining properties that you intend to supply with power?—A. No, sir.

95. R. D. Q. Before you built these lines or had these poles put up from the proposed power plant to Bodie, from Bodie to Aurora, and Aurora to Lucky Boy, did you, as vice president of the company, investigate the possible field for the installation of the power that was to be developed at this power house?—A. At Jordan?

96. R. D. Q. At all those places.—A. No, sir. We were bringing that power for the Cain Consolidated; that was the start.

97. R. D. Q. Since the formation of the Hydro Electric Co. have you, as vice president of the company, investigated the field for the possible utilization of the power developed at the power plant?—A. No, sir.

98. R. D. Q. Did you not investigate to ascertain what part of the power might be used other than for the Cain Consolidated mines?—A. And the Bodie mines and the Goleta mines.

99. R. D. Q. Which are the larger mines; those at Bodie, at Aurora, or Lucky Boy?—A. At Aurora.

100. R. D. Q. How many men are employed at Aurora?—A. Just a few at present.

101. R. D. Q. How many men are employed at Bodie?—A. Possibly about a dozen.

102. R. D. Q. How many men are employed at Lucky Boy?—A. I don't think barely any. They are closing down now.

103. R. D. Q. And you think, though, that the mines will be able to start and operate on being supplied with this power?—A. I do.

104. R. D. Q. At these three places; is that true?—A. Which three?

105. R. D. Q. At Aurora, Bodie, and Lucky Boy.—A. We are not positive on the Lucky Boy. We do know the Goleta, Bodie, and Aurora.

106. R. D. Q. Have you done any work on the Goleta mining claims up to the present time?—A. We have not, but we are preparing to do work there.

107. R. D. Q. What have you done?—A. We have decided to let contracts in there and open up the Goleta mine.

108. R. D. Q. Have you done anything except to decide that point?—A. We have not yet.

109. R. D. Q. You have not run any power line?—A. We have the power right close to it. It would not take but a day to run the power to it.

110. R. D. Q. What did you pay in cash for the so-called Goleta claims?—A. We paid $12,000 and in addition to that there was considerable extra added; I don't know just the amount. The arrangement I made with Roberts was $12,000.

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112. R. D. Q. Did that cover all claims and all properties of the Goleta Co.?—A. No, sir.

113. R. D. Q. Did it cover simply their claims?—A. It covered the water rights and some of their land.

114. R. D. Q. Did it cover anything more than mining claims?—A. Yes, sir.

115. R. D. Q. Do you know what the condition of affairs is underground in the Goleta mines at the present time?—A. I do not.

116. R. D. Q. Is it not a fact that the tunnels are caved?—A. Right at the mouth the tunnels are caved, and I have consulted with my associates and advised them to open that tunnel up. We had three different parties who wanted to bond the mine.

116. R. D. Q. Do you intend bonding the mine?—A. After we open it we possibly may.

118. R. D. Q. And to the person who bonds it you intend supplying power, do you?—A. If they require it. One party has got their own power.

119. R. D. Q. After the company purchased the Conway claims did you talk with Mr. Dieter here about the value of those claims and what character of bargain had been made in obtaining those claims?—A. Not to my knowledge about the value and character, because we are buying property pretty much every day and every place we can buy it.

120. R. D. Q. You did not know that Mr. Dieter was going to get these claims?—A. I did not have anything to do with that matter—who purchased them. I did not talk to him about it, to my knowledge.

121. R. D. Q. Has this money been paid over already to the Goleta Mining Co.?

Mr. CAMPBELL. I believe I will object to that. That is not redirect examination.

Mr. CLARK. I want to find out what the relations of the company are.

Mr. CAMPBELL. I will withdraw the objection.

A. It has been paid to Mr. Stephen M. Roberts, who was the owner.

The MASTER. Is that the property covered in this deed?

Mr. CAMPBELL. Yes. The deed was made, executed, and delivered.

By Mr. CLARK:

122. R. D. Q. What, in addition, altogether, was included in this bargain? You said the water rights and the Goleta claims. What else?—A. Some agricultural land.

123. R. D. Q. How much agricultural land?

Mr. CAMPBELL. I do not think that cuts any figure; that is not reexamination.

Mr. CLARK. It bears directly on this deed.

Mr. CAMPBELL. You can not contradict the deed in that way.

Mr. CLARK. I want to find out what the agricultural land is.

Mr. CAMPBELL. It does not matter what it is.

The MASTER I will allow the question.

Mr. CAMPBELL. We will take an exception.

A. About 40 acres of agricultural ground is in cultivation.

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By Mr. CLARK:

124. R. D. Q. Any other?—A. Some other agricultural ground, but it is not in cultivation.

125. R. D. Q. How much?—A. About 200 acres, including the mill site.

Recross-examination by Mr. CAMPBELL:

1. R. X Q. Mr. Cain, yourself, Mr. Metson, and several of your associates own all the stock in the Cain Consolidated Co., don't they?—A. Yes, sir.

2. R. X Q. And yourself and Mr. Metson and some other associates, including my unfortunate self, own the stock in the Southern Development Co.?—A. Yes, sir.

3. R. X Q. Yourself and Mr. Metson own fully one-half of the stock in this Hydro Electric Co.?—A. Possibly not that much, but we own a good portion of it.

4. R. X Q. And you still say that it is the intention of this company with this power to use it on their own mines and then to distribute to the other mines, to these various mines?—A. Yes, sir.

5. R. X Q. The intention is to use it on your own and then develop that mining company?—A. That is the intention.

ALBERT F. DIETER. Called for the United States; sworn.

By Mr. CLARK:

1. Q. Where do you reside, Mr. Dieter?—A. Bodie, Cal.

2. Q. What relation do you sustain to the Hydro Electric Co.?—A. Secretary and treasurer.

3. Q. Did you, as treasurer of the company, ever pay $12,000 to Mr. Roberts?—A. No, sir.

4. Q. Do you know anything about the payment of $12,000 to Mr. Roberts?—A. No, sir.

5. Q. As secretary and treasurer of the Hydro Electric Co.?—A. No, sir.

6. Q. Who attended to that deal?—A. The deal was all consummated before I took charge of the office of secretary and treasurer.

7. Q. When did you take charge?—A. About April 20.

8. Q. Who employed you?—A. The officers of the company.

9. Q. The Hydro Electric Co.?—A. Yes, sir.

10. Q. At that time that company was being discussed, was it?—A. I can not say positively that the company was named at that time.

11. Q. Mr. Dieter, did you attend to the purchase of the Conway claims?—A. Yes, sir.

12. Q. How much did you pay for them?—A. I don't recall the amount that was absolutely paid over.

13. Q. When did you first discuss the matter of purchasing?—A. About three months ago, I should say.

14. Q. With whom did you discuss it?—A. With Mr. Conway.

15. Q. What was said upon that occasion about what you should pay him?—A. I don't recall what was said.

16. Q. What was the substance of the discussion? You say you discussed the matter of purchasing.

Mr. CAMPBELL. I think, to keep the record straight, I will object to this as incompetent. The deed is in evidence.

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The MASTER. The objection is overruled.
Mr. CAMPBELL. We will take an exception.
A. I can not recall the substance just now.

By Mr. CLARK:

17. Q. Do you know you did discuss the question of purchasing from him?—A. Not entirely.
18. Q. What part of it did you discuss?—A. In having the deed prepared.
19. Q. Did you know before that that Mr. Conway was going to locate those claims?—A. No, sir.
20. Q. You did not?—A. No, sir.
21. Q. Did you ever talk with Mr. Conway about locating those claims before he did locate them?—A. No, sir.
22. Q. Did you talk with Mr. Conway about his having located them?—A. I think not.
23. Q. Don't you know?—A. I am quite positive.
24. Q. Quite positive?—A. Yes, sir.
Mr. LANE. That is rather a vague question.

By Mr. CLARK:

25. Q. Did you know prior to Mr. Conway's locating those claims he was going to locate them?—A. No, sir.
26. Q. Did you have any other talk with Mr. Conway about selling those claims?—A. I think not.
27. Q. When was the purchase finally consummated?—A. I should say about three months ago, as I recollect.
28. Q. Who attended to the purchase?—A. I did.
29. Q. Did you talk with him about the time about it?—A. Yes, sir.
30. Q. Had you already told him to make out the deeds?—A. Yes, sir.
31. Q. Did you make out the deed?—A. I think I did.
32. Q. Where did you go to have the deeds made out?—A. In my office.
33. Q. What was said about the papers at the time?—A. The papers had all been arranged by some of the other officials or parties connected with the company.
34. Q. What parties?—A. I think it was Mr. Chappell.
35. Q. What were his duties?—A. He has no official duty other than director of the company.
36. Q. Did Mr. Chappell have anything to do or any authority from the company to obtain mining claims, if you know?
Mr. CAMPBELL. I object to that.
A. I can not say.
Mr. CAMPBELL. Wait a moment, Mr. Dieter.
The MASTER. I overrule the objection.
Mr. CAMPBELL. We will take an exception.

By Mr. CLARK:

37. Q. How do you know that Mr. Chappell made arrangements for the purchasing of the property?—A. I had been asked by him to see that certain matters were attended to and that was one of the matters he asked me to attend to.
38. Q. He did?—A. Yes, sir.

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39. Q. What did he tell you?—A. To attend to getting the deed from Mr. Conway.

40. Q. Did you, in pursuance of that direction from Mr. Chappell, go to Mr. Conway?—A. Yes, sir.

41. Q. That was as early as February, you think?—A. No, sir.

42. Q. How early?—A. I should say about three months ago.

43. Q. What was said about the price?—A. The price was all agreed to before I took up the making up of the deed.

44. Q. How do you know it was?—A. Well, I understood that it had been.

45. Q. How did you get that understanding?—A. From Mr. Chappell.

46. Q. What did he tell you the price was?—A. He did not tell me.

47. Q. What did you know the price was?—A. I did not know.

48. Q. Don't you know to-day what the company paid for that property?—A. No, sir.

49. Q. As secretary and treasurer, you don't know?—A. No, sir.

50. Q. Even though you had the procurement of the deed?—A. No, sir.

51. Q. And even though you are the secretary of the company?—A. I know there was consideration passed.

52. Q. How much? How do you know there was consideration passed?

Mr. CAMPBELL. You asked him how much first and then you asked him another question.

A. Because I paid him.

By Mr. CLARK:

53. Q. How much did you pay?—A. I recall paying him $10.

54. Q. Did you pay him that at the time the deed was made?—A. Yes, sir.

55. Q. Did you pay Burke the same amount?—A. I think so.

56. Q. Don't you know that Mr. Conway located those claims at the behest of this company and that he got this $10 on account of what he had done?—A. No, sir.

57. Q. You don't know that?—A. No, sir.

58. Q. Did you ever talk with any members of this company about the advantage that might accrue to the company in the way of having the right to run a pipe line across this land if it succeeded in procuring mining locations on the land in controversy?—A. No, sir.

59. Q. You did not?—A. No, sir.

60. Q. When did you first know that Mr. Chappell was procuring mining claims for this company?—A. I did not know he was.

61. Q. When did he first tell you he was procuring mining claims for this company?—A. I did not know he told me he was procuring any other mining claims than these ones mentioned.

62. Q. Did you pay the money to Mr. Burke also?—A. I think I did.

63. Q. How much did you pay him?—A. I do not recall how much it was.

64. Q. Did you pay him at least $10?—A. I think so.

65. Q. You do recall that you paid him $10?—A. Yes, sir; I think I do.

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66. Q. Do you remember how long before or after you paid the money to Mr. Conway it was that you paid the $10 to Burke?—A. No, sir.

67. Q. You don't remember that?—A. No, sir.

68. Q. You know that at the time this money was paid the Hydro Electric Co. was very anxious, from expressions of the officers made in your presence, to obtain a right of way over the land in controversy, don't you?—A. I can not say that I was aware of that.

69. Q. You don't know that the company was desirous of obtaining a right of way over this land?—A. I understood myself that they had the right of way over that by reason of a certain ditch right that was sold to them by the Goleta Co.

70. Q. When you paid $20 for the Burke and the Conway claims, you would say that you did not have in mind any advantage that might accrue to the company by virtue of the fact that it could assert a right to running a pipe line across those claims?—A. I don't think that the claims were bought for that purpose.

71. Q. Did you have a talk with Mr. Cain about the buying of these claims?—A. I may.

72. Q. Do you remember?—A. No, sir.

73. Q. Did Mr. Cain tell you prior to February, 1910, that it was the desire of this company to obtain a right of way or the desire of the persons that he represented, or these two companies, to obtain a right of way across the land in controversy?—A. No, sir.

Mr. CAMPBELL. I want all this to go in under our objection.

By Mr. CLARK:

74. Q. Did you make out Mr. Burke's deed also?—A. I can not recall whether I did or not.

75. Q. Where was Mr. Burke when he gave you the deed?—A. I think he was in my office.

76. Q. Where?—A. In Bodie.

77. Q. You remember that pretty distinctly, don't you?—A. No, sir; I can not.

78. Q. You can not remember that?—A. No, sir.

79. Q. Did you have anything to do with the payment of the money for the Mattly claims?—A. No, sir.

80. Q. You did not?—A. No, sir.

81. Q. Are you a director of this company?—A. No, sir.

82. Q. Are you also interested in the Cain Consolidated Co.?—A. No, sir.

Mr. CAMPBELL. What do you mean by "also"? He said he was not a director of this company.

Mr. CLARK. He may be a stockholder. I am asking him if he was also interested in the Cain Consolidated.

83. Q. Did you pay him by check?—A. Who?

84. Q. Did you pay Mr. Conway by check?—A. I think not.

85. Q. Did you pay him cash?—A. I think it was.

86. Q. Did you pay Mr. Burke cash?—A. I think not. I don't recall the transaction with Mr. Burke, just when it took place; I am not very clear on that.

87. Q. Had you up to the time that you paid this sum of $20 discussed with the officers of the Hydro Electric Co. the fact that to obtain a right of way across this land might cost the company—

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that is, if it had to obtain a permit from the Government—the sum of $200 a year?

Mr. CAMPBELL. We object to that. He said he never discussed the right of way at all.

The MASTER. The objection is overruled.

Mr. CAMPBELL. We will take an exception.

A. No, sir.

By Mr. CLARK:

88. Q. You knew at the time, did you not, that this money was paid to these men that the Government was insisting on its permission being obtained to cross the lands in controversy?

Mr. CAMPBELL. This all goes under the same objection.

The MASTER. Yes.

A. I think not. I can not recall the time. If I could place the dates, I might be able to.

By Mr. CLARK:

89. Q. How long ago did you become aware of the fact that the Government was insisting that the Hydro Electric Co. should obtain permission to cross its land?—A. Along in May, I should say.

Mr. CAMPBELL. No questions.

Mr. CLARK. There is another question or two that I want to ask Mr. Cain.

JAMES S. CAIN, recalled.

By Mr. CLARK:

1. F. R. D. Q. Mr. Cain, in June, 1910, did you as the vice president or agent of the Hydro Electric Co. seek to obtain the location of a highway along the line of your pipe line across this particular land in controversy?

Mr. CAMPBELL. Objected to as incompetent, irrelevant, and immaterial, along the line of highway.

Mr. CLARK. Along the pipe line.

Mr. CAMPBELL. Yes; along the pipe line. Do you say he did?

Mr. CLARK. Yes. I offer to show that they knew of the necessity of obtaining this permit from the Government and were seeking to evade the necessity of obtaining the permit by getting the local board of supervisors to establish a right of way.

Mr. CAMPBELL. They wanted it along by the side of it.

The MASTER. I will allow the question.

Mr. CAMPBELL. We will take an exception.

A. I did ask for a concession or right of way for a road to be built through there.

By Mr. CLARK:

2. F. R. D. Q. Did you see the map which was filed with that?—A. I did.

3. F. R. D. Q. I will ask you if this map which is attached to the dormant I now hand you is a fair representation of the route of the road?

Mr. LANE. It is not fair to ask the witness the question until he looks over the instrument. That does not purport to be any more than a small fraction of the road, namely, the portion over these lands.

Mr. CLARK. That is what I want to show.

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Mr. CAMPBELL. You do not say it covers the ditch line. It is along by the side of it.

Mr. CLARK. It is along the route.

The MASTER. Let the witness explain.

A. The road we asked for the right of way was coming out of the canyon about 5½ miles from Bodie, and running from there to Lundy Lake, right along the pole line and pipe line.

By Mr. CLARK:

3. F. R. D. Q. Now, what was your object in getting that highway?—A. To build a road for the operators.

4. F. R. D. Q. Was that the only object?—A. We would have to get the road. We thought we might get some assistance from them to help to build it.

5. F. R. D. Q. Did you not also intend in obtaining that highway, if you did obtain the highway, to claim that you could construct a pipe line along it without authority from the Federal Government?—A. I did not make no such claim as that.

6. F. R. D. Q. You say this was for the purpose of constructing your pipe line?—A. For the operators or caretakers.

7. F. R. D. Q. I want to call your attention to a certain portion of an affidavit which relates to this specifically and nothing else. I read from an affidavit presented to us:

> That the entire line "a" said new ditch is within and along a public highway and county road, and that the county supervisors of said Mono County have granted to defendant a permit and franchise for the construction of said ditch.

Mr. LANE. That is very evident. After the county have made a public road he had to have a franchise. What is the object of that?

By Mr. CLARK:

8. F. R. D. Q. Did you obtain a franchise from the board of supervisors to lay a pipe line along this highway?

Mr. LANE. Objected to, as the written instrument is the best evidence of that fact.

The MASTER. The objection is overruled.

A. We asked for it and they said they would grant it.

By Mr. CLARK:

9. F. R. D. Q. Did you know whether or not it was a fact when you subscribed this affidavit, you said:

> That the entire line of said new ditch is within and along a public highway and county road and that the county supervisors of said county, Mono County, have granted the defendant a permit and franchise for the construction of said ditch.

A. They said they would grant it September 6. I think it was granted August 6.

10. F. R. D. Q. Who paid the expenses of the members of the board of supervisors in attending the meeting and granting of this franchise?

Mr. CAMPBELL. I object to that.

The MASTER. Let him answer.

Mr. CAMPBELL. We will take an exception.

A. While they were with me I paid the expenses.

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By Mr. CAMPBELL:

11. F. R. D. Q. That is not the question. He said "in attending the meeting at which they granted the franchise." Pay a little attention to the questions. Read it, Mr. Bennett.

The reporter reads the question.

A. I paid a portion of them.

By Mr. CLARK:

12. F. R. D. Q. You signed, by the way, the original of this petition, did you not, Hydro Electric Co., by J. S. Cain?—A. Yes, sir.

Mr. CLARK. I offer this in evidence. Counsel has the original certified copy.

Mr. CAMPBELL. Subject to the same objection.

Mr. CLARK. It is offered to show they knew they had to obtain a right of way, and for the purpose of showing that even this proceeding is not in good faith.

The MASTER. Copy of resolution establishing and plan of county road in Mono County will be marked "Government's Exhibit 27"; a similar copy of a resolution by board of supervisors of Mono County will be marked "Government's Exhibit 28."

(The documents are marked "Government's Exhibits 27 and 28.")

The last paper is not certified, but it is a copy of a certified copy, and purports to be, and I understand no objection is made on that score.

Mr. LANE. No.

By Mr. CLARK:

14. F. R. D. Q. I hand you a photograph, which is attached to an affidavit, a copy of which was served on me, and ask you if that is a photograph of a portion of the route of this pipe line [handing]?—A. This part is, right there.

15. F. R. D. Q. You are pointing to what is indicated to be pipe line?—A. No; ditch.

16. F. R. D. Q. This is pipe line, is it not?—A. There is no pipe there.

17. F. R. D. Q. I thought there was. The point marked with the arrow to the left is a ditch?—A. Yes, sir.

18. F. R. D. Q. And that is the route, is it not, of the highway, so called, along which the franchise exists to construct this highway?—A. It is a portion of it.

19. F. R. D. Q. Is that upon the land in controversy?—A. It is.

Mr. CLARK. I will offer this in evidence and ask that it be marked.

The MASTER. The photograph will be marked "Government's Exhibit 29."

(The photograph is marked "Government's Exhibit 29.")

By Mr. CLARK:

20. F. R. D. Q. Did you take any proceedings in connection with obtaining this right of way, highway and franchise, for the purpose of obtaining permission from the Federal Government to have the highway laid across these lands?

Mr. LANE. We object to that as being indefinite and uncertain. I can not understand what he is driving at.

The MASTER. Repeat the question, Mr. Clark.

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By Mr. CLARK:

21. F. R. D. Q. Did you take any proceedings for the purpose of having permission from the Government to put this highway across this land in controversy?

Mr. CAMPBELL. We will give you the admission we did not.

By Mr. CLARK:

22. F. R. D. Q. I will show you a photograph of a part, I suppose, of your pipe line that is attached to a copy of the affidavit that was served on me. Is that on the land in question?—A. I would think only a portion of it. I don't know what this is here [pointing].

23. F. R. D. Q. That is on the route of the proposed highway, is it?—A. Yes, sir.

Mr. CLARK. I offer that in evidence.

The MASTER. The photograph will be marked "Government's Exhibit 30."

(The photograph is marked "Government's Exhibit 30.")

By Mr. CLARK:

25. F. R. D. Q. The route of the highway is the route of the ditch line and pipe line?—A. Yes, sir; and pole line.

25. F. R. D. Q. There is a wagon road right down below this?—A. Yes, sir; but we can not use it. We are hauling on there now, or have been hauling, and expect to haul more for the delivery of the pipe.

26. F. R. D. Q. I will hand you a map which has been served on us, entitled "Map of the Hydro Electric Co. and plant on Mill Creek." You understand the location of your properties there?—A. Yes, sir.

27. F. R. D. Q. Mono Lake and Mill Creek?—A. Lundy Lake.

28. F. R. D. Q. Lundy Lake, I mean. You understand this line I am pointing to indicates the route of the proposed new ditch?—A. Yes, sir.

28. F. R. D. Q. I will ask you if on that map this line marked here "wagon road" correctly indicates the line of the public roadway which runs along through that country?—A. Yes, sir.

Mr. CLARK. I desire to offer this map in evidence.

The MASTER. The map will be marked "Government's Exhibit 31."

(The map is marked "Government's Exhibit 31.")

Further recross-examination by Mr. CAMPBELL:

1. F. R. X Q. Mr. Cain, you asked and obtained a right to have a public highway run along the entire line of the ditch, the pipe line and the pole line?—A. From about 5 miles south of Bodie.

2. F. R. X Q. You did not simply ask to have a public highway declared on this one quarter section of land?—A. No, sir.

3. F. R. X Q. You did it for the purpose of facilitating the construction of the pipe line, so that after it was constructed you could keep view of your pipe line and wires?—A. For the maintenance of the operators.

4. F. R. X Q. So that after you start persons can use that to go along for the purpose of inspection?—A. For the line tenders and users.

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Further redirect examination by Mr. CLARK:

29. F. R. D. Q. Do you mean to tell this court you were not attempting also to get a right to cross the land in controversy without obtaining the permission of the Government?

Mr. CAMPBELL. For this highway?

Mr. CLARK. Yes.

A. I had nothing to do with obtaining permission from the Government.

30. F. R. D. Q. Nothing to do with it?—A. No, sir. I talked something with Mr. Clark. He asked me different questions about it. I did not know what they proposed to do. When Mr. McCone and I were talking this matter up, Mr. Clark said we would have to have permission—that is, last year.

31. F. R. D. Q. The so-called highway drops about 200 feet in one place at almost a perpendicular incline?—A. It is probably steep there, but we are building a railroad grade of 3 feet to pull up the pipe.

32. F. R. D. Q. How much money did you pay for this franchise?—A. I don't know that we paid anything for the franchise.

34. F. R. D. Q. You don't know that you paid anything for the franchise of laying the pipe line along the county road?—A. Not to my knowledge, that the supervisors charged us for that.

35. F. R. D. Q. You don't know that?—A. No, sir.

36. F. R. D. Q. Would Mr. Dieter know that?—A. I don't think there was any money paid for that franchise, to my knowledge.

Mr. CAMPBELL. We will give you an admission; there was nothing paid.

Mr. CLARK. I will not take the admission, because it is necessary at least to pay a dollar.

Mr. CAMPBELL. It is not necessary to pay 5 cents.

The WITNESS. I don't think there was any money paid for it.

Mr. CLARK. You paid no money?—A. Not to my knowledge.

Further recross-examination by Mr. LANE:

6. F. R. X Q. Do you remember when I came to Bodie, about the 4th of September it must have been—no, about the 30th of August; do you remember when I came to Bodie on the 30th of August?—A Yes, sir.

The MASTER. Of this year?

Mr. LANE. Yes.

7. F. R. X Q. Do you remember whether I advised you at that time that the fact that you had this road entitled you to certain privileges?—A. Yes, sir.

8. F. R. X Q. Did I ever advise you of that before?—A. No, sir.

9. F. R. X Q. Did anyone else ever advise you of that before?—A. Never to me.

10. F. R. X Q. How long is this highway that you asked for?—A. I should think about 18 miles.

12. F. R. X Q. About 18 miles long?—A. Yes, sir.

13. F. R. X Q. Extending from Lundy Lake about 18 miles continuously across that Mono desert land?—A. From Lundy Lake to about 5 miles south of Bodie.

14. F. R. X Q. Except for these few feet crossing this little land in controversy, none of it touches Forest Service land?—A. Not to my knowledge.

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Further redirect examination by Mr. CLARK:

37. F. R. D. Q. Who advised you to obtain the privilege of laying your pipe line along there, Mr. Lane?—A. No, sir.

ALBERT F. DIETER recalled.

By Mr. CLARK:

1. F. R. D. Q. How much did the Hydro Electric Co. pay for the franchise along the roadway referred to by the last witness?—A. Nothing.

2. F. R. D. Q. Do you know that for certain?—A. Yes, sir.

3. F. R. D. Q. Was that matter in your charge?—A. It would be in my charge.

4. F. R. D. Q. In what way was it in your charge?—A. As treasurer.

5. F. R. D. Q. Did you discuss with the members of the board of supervisors what should be paid?—A. No, sir.

7. F. R. D. Q. Did you attend the meeting of the county board of supervisors at the time the franchise was sold, after it was advertised?—A. No, sir.

8. F. R. D. Q. Who paid the expenses of obtaining that franchise?—A. I don't know.

9. F. R. D. Q. But you paid nothing for it?—A. No, sir.

Mr. CLARK. I do not want to encumber the record, but I have a certified copy of the order establishing this forest reserve.

Mr. LANE. We will admit it. The court must take judicial notice of it, because that is published in the Statutes of the United States.

The MASTER. I want the advantage of them, but I do not think they need to be marked as exhibits.

Mr. CLARK. Very well.

The MASTER. Are these statutes?

Mr. CAMPBELL. No; proclamations under the statute. It is admitted that the matter in controversy is within the forest reserve.

The MASTER. It may be admitted in evidence if there is any question about it.

Mr. CLARK. That is our case.

Mr. CAMPBELL. We have no testimony, if your honor please, but we should like to argue this case before your honor. We should like your honor to take time to read the affidavits first.

Mr. CLARK. You have not offered them. I want to make certain objections to some.

The MASTER. You have no oral testimony, you mean?

Mr. CAMPBELL. None.

Mr. LANE. These are all prepared and in proper order, if your honor please [handing affidavits].

Mr. CAMPBELL. Mr. Clark can make his objections to them during the argument.

Mr. CLARK. Yes; very well. I want to ask Mr. Cain an additional question, with your honor's permission.

The MASTER. Certainly.

J. S. CAIN recalled.

By Mr. CLARK:

1. Q. You said this highway was about 18 miles long?—A. Yes, sir.

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2. Q. Do you know whether it runs over private land?—A. It would go over two little places.

3. Q. Is the rest of it public land?—A. Yes, sir.

4. Q. Who obtained the right to go over this private land?—A. I don't know as anyone has yet. We have the right of way for some of them.

5. Q. What is the distance that this roadway, this 18-mile roadway, runs over private land?—A. Possibly half a mile.

6. Q. You have a right of way to go over it with your pipe line?—A. There is no private land, except what the company owns themselves.

7. Q. Has the company yet deeded to the county the route of right of way for a highway over that land?

Mr. LANE. If you read those exhibits, I think they specify that they are to do that; that that is a condition of the grant.

Mr. CLARK. You admit that has not been done?

Mr. LANE. No.

A. I don't know that the deed is made out. I see a deed in the office yesterday for another portion of the land for another county road over toward Bridgeport.

By Mr. CLARK:

8. Q. You are sure that this whole route crosses over private land only a distance of a half of a mile?—A. Not to exceed over half a mile.

Cross-examination by Mr. LANE:

1. X Q. Mr. Cain, this public land that this road passes over that is outside of the forest, this 18 miles of public land that it passes over, has there ever been any demand or question or condition raised as to your right to cross that?—A. None whatever.

2. X Q. The only ones that have raised any objection or imposed any condition or tried to exact any charges has been on this little piece of land in the forest?—A. That is all.

Mr. CLARK. I will state, if your honor please, in the event that the affidavits are admitted, it may possibly be necessary to recall some of the witnesses.

The MASTER. I will consider the matter submitted now, with leave to reopen it for further testimony.

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EXHIBITS IN CASE OF UNITED STATES v. HYDRO ELECTRIC CO.

GOVERNMENT'S EXHIBIT 1.

This exhibit, as filed, is a large tabulated sheet giving an abstract of all filings upon, and all conveyances from the United States of, every legal subdivision of the entire township No. 2 north, range 25 east, M. D. M., California.

The only value of the exhibit is to show legal title to the northeast quarter of section 14 of said township to be in the United States.

The exhibit is therefore not here reproduced.

GOVERNMENT'S EXHIBIT 2.

See opposite page 15.

GOVERNMENT'S EXHIBIT 3.

See page 25.

GOVERNMENT'S EXHIBIT 4.

See page 25.

GOVERNMENT'S EXHIBIT 5.

This exhibit is a certified copy of notice of location of the mining claim Halley. It is covered by defendant's Exhibit C1, which is printed later herein. (See p. 95.)

GOVERNMENT'S EXHIBIT 6.

This exhibit is a certified copy of the notice of location of the mining claim Wolf. It is covered by the defendant's Exhibit C1, which is printed later herein. (See p. 94.)

GOVERNMENT'S EXHIBIT 7.

This exhibit is a certified copy of the notice of location of the mining claim Eagle. It is covered by the defendant's Exhibit C1, which is printed later herein. (See p. 94.)

GOVERNMENT'S EXHIBIT 8.

This exhibit is a certified copy of the notice of location of the mining claim Sunlight. It is covered by defendant's Exhibit C1, which is printed later herein. (See p. 93.)

GOVERNMENT'S EXHIBIT 9.

This exhibit is a certified copy of the notice of location of the mining claim Johnnie Con.

It is covered by defendant's Exhibit C1, which is printed later herein. (See p. 94.)

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GOVERNMENT'S EXHIBIT 10.

This exhibit is a certified copy of the notice of location of the mining claim High Grade.

It is covered by defendant's Exhibit C1, which is printed later herein. (See p. 95.)

GOVERNMENT'S EXHIBIT 11.

This exhibit is a certified copy of the notice of location of the mining claim Pine Tree.

It is covered by defendant's Exhibit C3, which is printed later herein. (See p. 97.)

GOVERNMENT'S EXHIBIT 12.

This exhibit is a certified copy of the notice of location of the mining claims Mattly, Nos. 1 to 10, inclusive.

It is covered by defendant's Exhibit C5, which is printed later herein. (See p. 99.)

GOVERNMENT'S EXHIBIT 13.

This exhibit is a certified copy of the deed from F. D. Mattly to J. S. Cain.

It is covered by defendant's Exhibit C6, which is printed later herein. (See p. 103.)

GOVERNMENT'S EXHIBIT 14.

This exhibit is a certified copy of the deed from J. S. Cain to the Hydro Electric Co.

It is covered by defendant's Exhibit C7, which is printed later herein. (See p. 104.)

GOVERNMENT'S EXHIBIT 15.

This exhibit is a certified copy of the deed from Francis Burke to the Hydro Electric Co.

It is covered by defendant's Exhibit C4, which is printed later herein. (See p. 98.)

GOVERNMENT'S EXHIBIT 16.

This exhibit is a certified copy of the deed from John A. Conway to the Hydro Electric Co.

It is covered by defendant's Exhibit C2, which is printed later herein. (See p. 96.)

GOVERNMENT'S EXHIBIT 17.

This exhibit is an informal, extrajudicial affidavit executed before a forest ranger. It was temporarily admitted in evidence, but was subsequently rejected and disregarded by the master in chancery.

GOVERNMENT'S EXHIBIT 18.

This exhibit is an informal, extrajudicial affidavit executed before a forest ranger. It was temporarily admitted in evidence, but was subsequently rejected and disregarded by the master in chancery.

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GOVERNMENT'S EXHIBIT 19.

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GOVERNMENT'S EXHIBIT 20.

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GOVERNMENT'S EXHIBIT 22.

This exhibit is an informal, extrajudicial affidavit executed before a forest ranger. It was temporarily admitted in evidence, but was subsequently rejected and disregarded by the master in chancery.

GOVERNMENT'S EXHIBIT 23.

[Mono, Uses, Cain Consolidated Gold Mining Co. Pipe Line, November 19, 1909.]

MARCH 7, 1910.

Mr. J. S. CAIN, *Bodie, Cal.*

DEAR SIR: Under date of November 26 I wrote you requesting certain papers in this case, in reply to which you referred me to Mr. A. J. McCone, of Reno, Nev. Mr. McCone has just informed me that you have taken over his interest in this property and will handle it in the future.

I have your informal application covering a right of way in this forest for a pipe line in T. 2 N., R. 25 E. Under regulation 16 of the Use Book applicants for special use permits for projects of this kind are required to submit duplicate maps, on tracing linen, showing the right of way as surveyed, together with field notes, in duplicate, both of which are to be certified to under oath by the surveyor.

In addition to this there is required a copy showing your right to the use of the water procured under local laws of the State of California, together with duly certified copies of the articles of incorporation of your company, in duplicate.

If you contemplate work on this structure during the coming spring, will you please furnish me with the above papers as soon as possible so that I may take up our end of the work?

Very truly, yours, W. M. MAULE, *Forest Supervisor.*

[Indorsed: No. 15210. In U. S. Circuit Court, Northern District of California. U. S. *v.* Hydro Elec. Co. Comp's. Exhibit 23. H. M. Wright, Master.]

GOVERNMENT'S EXHIBIT 24.

[D. Mono, Uses, Cain Consolidated Gold Mining Co. Pipe Line, November 19, 1909.]

BODIE, CAL., *March 10, 1910.*

Hon. W. M. MAULE,
Forest Supervisor, Gardnerville, Nev.

DEAR SIR: Acknowledging receipt of your favor of March 7, we will proceed to show our right to the use of the water and furnish necessary papers as instructed at the earliest date possible.

Thanking you, I am, yours, very truly, J. S. CAIN.

[Indorsed: No. 15210. In U. S. Circuit Court, Northern District of California. U. S. *v.* Hydro Elec. Co. Comp's. Exhibit 24. H. M. Wright, Master.]

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GOVERNMENT'S EXHIBIT 25.

HYDRO ELECTRIC CO.,
Bodie, Cal., August 4, 1910.

Mr. W. M. MAULE,
Forest Supervisor, Gardnerville, Nev.

DEAR SIR: We were very much surprised yesterday to be informed over the telephone by Mr. Elliott, acting for the Forestry Department, that he had stopped the progress of our work on Mill Creek and threatened arrests if work progressed any further.

As you know, we feel that we have certain rights, under which we are proceeding, and we do not feel that Mr. Elliott has been fully informed with reference to these matters and that he must have attempted to stop this work and threatened arrests without proper authority or knowledge as to our rights.

With reference to the filing of data, which Mr. Chappell and myself informed you during our recent visit in Gardnerville, that we would proceed to prepare and supply you with as soon as possible, wish to say that we already have this work under way, and it is our intention to prepare and file with the Forest Service department all the data that is desired in so far as that can be done without serious detriment to the progress of our work.

In connection with this matter I think Mr. Lane has expressed himself very clearly in his letter to me, under date of July 29, with reference to the conditions under which we are laboring at the present time. As the season is progressing very rapidly, we can not delay the progress of the work for matters that can follow in due time. I am therefore sending you a copy of Mr. Lane's letter of July 29, addressed to me, which discloses the conditions very fully.

We are doing everything possible to expedite the making up of details required by your department and will send them to you as soon as we can conveniently do so, which we hope will be satisfactory.

Yours, very truly,

A. F. DIETER,
Secretary and Treasurer.

Duplicates sent district forester August 8, 1910.

W. M. M.

(Indorsed.—No. 15210. In U. S. Circuit Court, Northern District of California. U. S. *v.* Hydro Electric Co. Complainant's Exhibit 25. H. M. Wright, master.)

GOVERNMENT'S EXHIBIT 26.

There is no exhibit of this number. In numbering the exhibits by inadvertence the number 27 was made to follow 25.

GOVERNMENT'S EXHIBIT 27.

This exhibit is an exact duplicate of defendant's Exhibit V, which is printed later herein. (See p. 119.)

GOVERNMENT'S EXHIBIT 28.

This exhibit is an exact duplicate of defendant's Exhibit W, which is printed later herein. (See p. 120.)

GOVERNMENT'S EXHIBIT 29.

This exhibit is a photograph of a portion of the pipe line. (See opposite p. 89.)

GOVERNMENT'S EXHIBIT 30.

This exhibit is a photograph of a portion of the pipe line. (See opposite p. 89.)

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GOVERNMENT'S EXHIBIT 31.

This exhibit is a photograph of a portion of the pipe line. (See opposite p. 89.)

GOVERNMENT'S EXHIBIT 32.

This exhibit is a copy of the President's proclamation of March 2, 1909, increasing the area of the Mono National Forest. (Obtainable from State Department at Washington.)

GOVERNMENT'S EXHIBIT 33.

This exhibit is a copy of the President's proclamation of July 2, 1908, establishing the Mono National Forest. (Obtainable from State Department at Washington.)

GOVERNMENT'S EXHIBIT 34.

This exhibit is a copy of the President's proclamation of October 26, 1907, increasing the Stanislaus National Forest. (Obtainable from State Department, at Washington.)

GOVERNMENT'S EXHIBIT 35.

This exhibit is a copy of the President's proclamation of September 7, 1906, establishing the Stanislaus National Forest. (Obtainable from State Department, at Washington.)

GOVERNMENT'S EXHIBIT 36.

In the Circuit Court of the United States, Ninth Circuit, Northern District of California. United States of America, complainant, *v.* The Hydro Electric Power Company, a corporation, defendant.

UNITED STATES OF AMERICA,
State and Northern District of California, ss:

F. H. Fowler, being first duly sworn, deposes and says: That he is a hydroelectric engineer connected with the Forestry Service of the United States; that he has been such since the 9th day of August, 1910; that he is familiar with the practice prevailing in the Department of Agriculture relative to the obtaining of permits for the establishment of pipe lines over Government land within forest reserves for power purposes; that it has been the practice of the Department of Agriculture for over a year last past to have all applications for permits passed upon by the engineers in the Forestry Department, whose duty it is to examine the plan of the proposed power project which is to be served by the establishment of the power pipe line across the Government land within the forest reserve; that it is the duty of the engineers of the Forestry Service to make proper estimates in order to determine what charge shall be imposed annually for the enjoyment of the Government permit or license to use the land within the forest reserve for power pipe lines; that the terms and conditions upon which permits for power pipe lines over Government land within forest reserves are determined by the Secretary of Agriculture; that in order to determine exactly what the charge shall be in any given case it is necessary for the Government to be furnished with complete data and information disclosing the exact nature of the power project which it is sought to serve by the establishment of the pipe line;

That there are certain fixed estimates which enter into the complete charge for permit in any given case and that until the proper information and data are furnished to the Government such charge can not be correctly and accurately determined.

In the first place a charge is fixed in accordance with the total amount of power that is produced by the water carried over the Government land, then certain deductions are made which depend upon the amount of patented and unreserved lands within the watershed which supplies the water carried over the Government land; the amount of the deduction is increased as the proportion of patented or unreserved

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lands within the watershed increases; deduction is also made in the event the pipe line does not pass in its entire route over Government land, the charge being in proportion to the amount of Government or public land which is crossed by the proposed power pipe line; if the power company or individual seeking the power permit is compelled to store water a further deduction in the total charge is made because of the inconvenience and difficulty in making storage of water; if there is no storage of water this deduction does not occur.

That to this affiant's knowledge the Engineering Department of the Forestry Service of the United States has never been furnished with any sufficient or proper data which will enable the Forestry Service to estimate what the charge for the permit to the Hydro Electric Power Co. would be for the crossing of section 14 in controversy in this case.

F. H. FOWLER.

Subscribed and sworn to before me this 15th day of September, 1910.

H. M. WRIGHT,
Master in Chancery.

GOVERNMENT'S EXHIBIT 37.

In the Circuit Court of the United States, Ninth Circuit, Northern District of California. United States of America, complainant, *v.* Hydro Electric Power Company, a corporation, defendant.

STATE AND NORTHERN DISTRICT OF CALIFORNIA,
City and County of San Francisco, ss:

W. M. Maule, being first duly sworn, deposes and says that he is a United States forest supervisor and that he has been such for more than a year last past. That as such forest supervisor it is the duty of affiant to receive applications for permission to establish rights of way for pipe line and ditches over lands within national forests. That the Mono National Forest has been duly and regularly established for more than a year last past, and this affiant has authority to receive applications for permissions to cross the public lands within the said national forest with pipe lines or with ditches.

That as such forest supervisor certain negotiations occurred between affiant and persons seeking to obtain a right of way for pipe line and ditch across the public land in controversy in this cause. That A. F. Dieter, who has subscribed to the response in this cause, was, even before the incorporation of the defendant herein, informed by this affiant that it would be necessary to obtain the permission of the United States of America, through its proper officers of the Department of Agriculture, before a right of way for pipe line or a ditch could be obtained to cross the public lands in controversy.

That upon the occasion when the matter of obtaining said permission of the United States of America to establish a pipe line and ditch across the public lands in controversy was discussed, and when the said A. F. Dieter was present, this affiant stated to the said A. F. Dieter that it would be necessary to obtain the permission of the United States of America in order to establish a pipe line or ditch across the lands in controversy. That the officers and agents of the Department of Agriculture have never made any arbitrary demand of any kind of the defendant in this case, or of any other person as a condition to the obtaining of the said permission. That at all times the officers and agents of the defendant have been advised and have known of the requirements of the rules and regulations of the Department of Agriculture which must be complied with in order to obtain permission to establish a ditch or pipe line over Government land within a national forest.

That prior to said oath with said Dieter that affiant gave to J. S. Cain and one Delos Chapelle precisely the same information and advice as was given to the said Dieter.

That never at any time has this affiant stated to the defendant or to any person that the defendant would be required to pay a tax or rental of $200 or $300 or of about said sums in order to obtain the permission hereinbefore referred to. Affiant states that to obtain the permission and to enjoy the permission to establish and maintain ditches and pipe lines across public lands within a national-forest reserve situated similarly to those in controversy in this case, it is required that a certain amount shall be paid for the use of the Government land for the pipe line or ditch, and that the amount is determined under rules and regulations prescribed by the Secretary of Agriculture of the United States.

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That this affiant at no time indicated to any person that anything but a compliance with the rules and regulations would be expected in order to obtain a permission to establish and maintain pipe lines or ditches across the Government land in controversy.

W. H. MAULE.

Subscribed and sworn to before me this 10th day of September, 1910.

H. M. WRIGHT,
Master in Chancery.

GOVERNMENT EXHIBIT 38.

In the Circuit Court of the United States, Ninth Circuit, Northern District of California. United States of America, complainant, *v.* The Hydro Electric Power Co., a corporation, defendant.

STATE AND NORTHERN DISTRICT OF CALIFORNIA,
City and County of San Francisco, ss:

Fred B. Clark, being duly sworn, deposes and says that he is an assistant forest ranger and has been such for more than a year last past, and for more than a year last past affiant has been stationed and has been performing his duties as such forest ranger in the Mono National Forest. That affiant is familiar with the lands in controversy in this case and with the work performed by the defendant in establishing its pipe line and ditches from Lundy Lake to and partly upon the public lands in controversy. That the defendant's pipe line already is constructed for a distance of about 800 feet upon the said public land from the westerly side, and the defendant has constructed a ditch for the purpose of laying and establishing its pipe line all the way across the said public land in controversy.

That on or about September 3, 1910, affiant had a conversation with one Poole, who at said time was acting as the construction engineer for the defendant. That such conversation occurred at the town of Lundy, near where the lands in controversy are located. In such conversation the said construction engineer asked this affiant if there would be any objection on the part of the Government to the plugging of the pipe which had been laid in order to prevent it from warping. That this affiant stated that it was not the intention of the Government to injure anybody, and that he did not know as to whether there would be any objection to filling the said pipe with water and plugging the same. That at said time nothing whatsoever was said about there being any timber being distributed along the ground. That there are materials distributed along the ground where the said pipe line is to be laid, which said materials were placed where they are situated at the present time by the agents and employees of the said defendant at a date prior to July 20, 1910. That this affiant was over the very lands in controversy and near the route of the pipe line and ditch across the said public lands on July 20, 1910, on which said date this affiant saw the materials, consisting of redwood staves, which staves are about 6 inches in width and from 10 to 14 feet in length, out of which said material the said defendant intends to construct the pipe line over the public lands in controversy.

That portion of the pipe line which the defendant is seeking to construct across the public lands in controversy is to be a pressure pipe, and that said pressure pipe will be made of steel.

That C. W. Brownley is in charge of the construction of the said pipe line which the defendant proposes to lay upon the Government land in question. That said C. W. Brownley is acting under and for the defendant in this case. That on September 3, 1910, this affiant had a conversation with the said Brownley at Lundy, Cal., near the lands in controversy, at which said conversation the said Brownley stated to this affiant that there was only about 1,000 feet additional wooden pipe line which the defendant proposed to construct upon the public land in controversy in order to complete its proposed pipe line.

That the defendant has a large number of men in its employment. That within a day or within three or four days at the most the defendant could pile and suitably protect all of the timber and lumber and material of every kind with which it proposes to continue the construction of a wooden pipe line upon the public lands in controversy. And that even if the line is to be constructed all the way across the public lands in controversy out of wood, and the material therefor is distributed along the line of the said ditch, the defendant, through its agents and employees, could, in a very short time, pile and suitably protect all of the materials it might intend so to use.

That a roadway runs along near the route of the proposed pipe line, and that it would not be a difficult matter to gather the whole of the material which the defendant has placed on Government land into one pile and properly protect the same.

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That this affiant is an experienced lumberman and sawmill man and has over nine years' experience in the cutting, sawing, and caring for lumber and building materials. That he is familiar with the character of material with which the defendant proposes to construct its wooden pipe line upon the Government land in controversy. That all that would be needed in order to care for and protect the lumber and material which the defendant has upon the ground and with which it is seeking to construct the pipe line in controversy will be the mere stacking of the said material and the covering of the same in order to prevent any warping of the same.

That this affiant ran a lumber yard of the Standard Oil Co. for three months at Richmond, Cal. That this affiant was an edgerman in sawmill work and in the work of sawing, stacking, and caring for lumber and building materials for about six years at Emigrant Gap, Placer County, Cal. That he is thoroughly experienced in the caring for and in the manufacture of lumber, and that this affiant knows from his actual experience that the wooden staves and building material which the defendant has upon the ground on the public land in controversy can be thoroughly, perfectly, and properly cared for, so as to prevent any substantial injury to the same whatsoever if the defendant will but properly stack and properly cover the same. That such work of stacking and covering the said lumber and building material can be easily done by unskilled laborers under proper direction of any agent of the defendant, and that along the route of the said pipe line where the said materials are distributed there are many convenient places, or places which can be rendered convenient without any considerable work, for the stacking and covering of the said material.

That this affiant states upon his experience and knowledge of lumber and building materials and the use thereof, that in view of the fact that the said lumber and building materials have been placed upon the ground for the time herein shown, the leaving of the same where they are at the present time for the period of 10 days or 2 weeks can not possibly add any substantial injury to the same, and that if there is any danger of injury, the same can be avoided by properly stacking and caring for the said lumber and building materials and by properly covering the same as herein stated.

That the said Brownley, at the same conversation hereinbefore mentioned, expressly stated to this affiant that the pipe line already built upon the Government land was plugged and that they were filling it with water. That this affiant knows that such work will properly protect the pipe line already built from injury of any kind that might occur from drying, shrinking, or warping.

That this affiant is familiar with the climate at the place of the public lands in controversy. That there is no danger whatsoever that water placed in the said pipe line will freeze within the next month and a half. That by releasing the water at intervals from said pipe line the same would not freeze. That if the pipe line were empty and covered with snow in the winter, no considerable shrinkage or warping would occur.

That the defendant has a large number of men in its employment. That it has not completed the work upon its power lines from its proposed power plant to the town of Bodie, thence to the town of Aurora, and thence to the town of Luckyboy, and that any such employees as it may have at the present time can be put to work upon the work of constructing power lines or upon other work of the said defendant.

FRED B. CLARK.

Subscribed and sworn to before me this 10th day of September, 1910.

H. M. WRIGHT, *Master in Chancery.*

RESPONSE OF DEFENDANT TO ORDER TO SHOW CAUSE ISSUED HEREIN, AUGUST 10, 1910.

In the Circuit Court of the United States, Ninth Circuit, Northern District of California. United States of America, complainant, *v.* Hydro-Electric Co., a corporation, defendant.

UNITED STATES OF AMERICA,
NORTHERN DISTRICT OF CALIFORNIA,
City and County of San Francisco, ss:

James S. Cain, vice president of the above-named defendant company, and A. F. Dieter, secretary thereof, each being first duly sworn, each for himself and not one for the other, deposes and says—

Affiants are respectively the officers of the said defendant company, as above stated, and reside at Bodie, Mono County, Cal., and are now, and at all times in the bill of complaint in the above entitled suit mentioned, have been in actual charge and direc-

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More circuitous, old line

More direct, shorter, new line.

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An old stump; tree *not* cut by Department.

In addition to entire ditch being dug, 600 feet of pipe line was also laid and constructed as here shown before suit was begun.

Both arrows indicate sections of ditch entirely excavated before suit.

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tion of all the operations of said defendant referred to in said bill of complaint, and herein. And affiants say that the true name of said defendant is that above written. See Exhibit *B* hereof.

Affiants make this affidavit as such officers of said defendant and on behalf thereof, in response to the order issued herein on August 10, 1910, to show cause why said defendant should not be enjoined pendente lite from constructing pipe lines, ditches, and flumes across the lands in said bill of complaint described.

In response to said order affiants aver and show as follows:

1. That the temporary restraining order issued herein on August 10, 1910, was without right.

2. That said bill of complaint does not state facts sufficient to constitute any cause of action against defendant or to entitle complainant to the relief prayed for or to any relief.

3. That said complainant is not, nor was during any of the times mentioned in said bill of complaint, the owner, except of the bare legal title held in trust for said defendant, or is or was in possession or use of any of said lands in said bill described, except a small strip or parcel in the extreme southeast corner of said lands, which said strip or parcel is not near to or in any way touched or affected by any of the operations of said defendant in said bill of complaint referred to or at all, but that on the contrary, all of said lands which are crossed by said ditch or pipe line of defendant, or are in any way touched or affected thereby, are, and at all said times have been, owned by and in the exclusive use, possession, and enjoyment of defendant, and that defendant is, and at all said times has been, entitled to the exclusive use, possession, and enjoyment of all the same. In this connection affiants aver that all said lands, together with surrounding lands and all the ditches, pipe lines, canals, and conduits referred to in said bill of complaint, and also all other matters delineated or shown thereon are truly, fully, and accurately delineated and shown upon Exhibit A, which is filed herewith and made a part of this response.

That upon each of the mining claims, "Lone Pine" (being the same claim as that designated "Pine Tree"), "High Grade," "Johnnie Con," "Sunlight" (being the same claim as that designated "Sunlit"), "Eagle," "Wolf," "Halley," and "Mattly," number 1 to 10, inclusive, as shown and designated upon said Exhibit A, there was, on or after January 1, 1910, and long prior to the commencement of the above-entitled suit, discovered valuable veins of gold and other minerals, and each claim was located, clearly bounded, and marked upon the ground, notice of such location, description, and boundary, giving the name of the locator and claim, and the date of the location being then posted thereon, and a full, true, and accurate copy of such notice being recorded in the office of the county recorder of Mono County, Cal., in accordance with the mining laws of the United States, and thereafter and long prior to the commencement of the above-entitled suit each of said claims was, for valuable considerations, regularly sold, assigned, and conveyed to said defendant, all as set forth fully in Exhibits C 1, C 2, C 3, C 4, C 5, C 6, C 7, all of which are filed herewith and made a part of this response. That all of said discoveries and locations were made by citizens of the United States, and the ground therein embraced has been acquired and is held, owned, and possessed by said defendant, also a citizen of the United States, in good faith for purposes of the mineral development thereof in accordance with the mining laws of the United States, and none of said claims has ever been declared invalid by the Land Department of the United States Department of the Interior, nor has any charge been made against the validity of any thereof.

4. That no irreparable damage nor any damage or injury at all whatever has been done or threatened by defendant. That before the issuance of said order to show cause or the temporary restraining order herein, and before the commencement of the above-entitled suit, said defendant had already dug, excavated, and constructed the ditch referred to in said bill of complaint and shown upon said Exhibit A, and had fully completed and entirely finished the digging, excavation, and construction thereof throughout its entire length, both upon patented lands and upon lands in said bill described, and had then already completed the laying and construction of the wooden pipe line for 1 mile upon patented lands and for more than 600 feet upon said described lands.

And affiants say that said ditch is not nor will the said pipe lines or ditch or both the same constitute any nuisance or continuing trespass or any damage or injury at all whatever. And, further, none of said lands in said bill described are, nor are any lands within said national forest adjacent to said lands, either in fact or at all, forest lands or covered with timber or underbrush, but on the contrary all said lands are desert and utterly barren, and covered with neither trees, grass, herbs, nor brush, except for one small group of scattered, struggling mountain pines and a few small scattering and utterly valueless bunches or bushes of desert sage. The following photographs (Nos. 1, 2, 3, and 4) illustrate the desert, treeless, barren character of

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said lands and surrounding territory and show also the nature of construction work already done before the commencement of this suit. Said photographs were all taken on said lands, along said ditch and pipe line, and the statements written thereon are true.

And affiants say also that in the excavation of said ditch no tree or seedling or root or branch of any tree or seedling, nor any herbage, underbrush, or grass was in any way cut, injured, or destroyed, except a few small scattering and utterly valueless bunches or bushes of desert sage, and further, that defendant is desirous, willing to, and can finish laying said pipe and refill said ditch throughout its entire length across said lands without doing any damage or injury at all whatever to said complainant and without in any way doing any damage or injury to any of said described lands or to any tree or seedling or to any root or branch of any tree or seedling or to any herbage, underbrush, or grass growing or being thereon.

That the laying of said ditch will tend to smooth and even said land. With reference to the desert character of the land and to the entire absence of any actual damage, reference is made to Exhibit D, which is filed herewith and made a part of this response.

And affiants aver that said defendant is a public-service corporation (see Exhibit B, which is filed herewith and made a part of this response), and is able in every respect to, and by said project here sought to be enjoined actually intends to, and is planning and proceeding to, conduct, distribute, and sell water to the public for irrigating, mining, manufacturing, household, and domestic use, and to generate, transmit, distribute, and sell to the public electric energy for light, heat, and power. Reference is here made to Exhibits E, F, G, H, which are filed herewith and made a part of this response. And affiants aver that said project will make possible the irrigation of more than 3,500 acres of surrounding desert and arid but fertile land. And defendant will, unless longer prevented by restraining order, be able to and will before December 1 of this present year make available and furnish electric power, lights, and heat as above stated to the towns, villages, and mining communities of Bodie, Cal., Aurora, Nev., and Luckyboy, Nev., and will be able to and will furnish such power at one-third the present cost of power at said places, and will thereby make possible to the residents of said places greatly increased mineral output and greatly enhanced wealth and profit and prosperity and comfort and convenience. However, if longer restrained by injunction, said project can not be completed until after the winter season, which will by December 1, next, set in, with excessive cold and snow, and in that event completion will be delayed until the summer of 1911 or later, and great and serious loss and damage will result to defendant and to the residents of Mono County and of Bodie, dal., and Aurora and Luckyboy, Nev. Defendant has already expended upon said Croject more than $200,000. Reference is made to Exhibits D, E, F, G, H, which are filed herewith and made a part of this response.

Photograph No. 5 following shows a portion of the desert valley lands susceptible of irrigation below the power house.

5. That the forest transfer act of February 1, 1905 (33 Stat., 628), and the forest administration act of June 4, 1897 (30 Stat., at p. 34, et seq.), provide as and for the method and mode in which the control of the Secretary of Agriculture over the national forest shall be exercised, and as the scope, purpose, and limit of such control, as follows, to wit:

"* * * he may make such rules and regulations and establish such service as will insure the objects of such reservations, namely, to regulate their occupancy and use and to preserve the forests thereon from destruction."

But there is no right or authority in law for the exercise of control over such forests except under and in pursuance of law or of rules and regulations publicly promulgated and of general application. Said act also, in attempting to delegate such broad and unrestricted authority, as affiants are advised and aver, is unconstitutional as an attempted delegation of legislative authority and functions, and therefore any such regulations would be and are void and of no binding force or effect. However, as to the matter here involved affiants are advised and aver that there is no law, rule, or regulation requiring said defendant to seek or secure any permit or permission whatsoever for or in the excavation or construction of its said ditch and pipe lines across the land as described in said bill of complaint and herein. In this connection affiants are advised and aver that the following rules and regulations, approved and promulgated by the Secretary of Agriculture on June 3, 1908, now remain unmodified and unrevoked and, by their terms purport to apply to, and none other are applicable to, the facts of this suit, to wit:

"Regulation 3. Persons having valid claims under the public-land laws or legal titles to lands within national forests are free to occupy and enjoy their holdings, but must not interfere with the purposes for which the forests are created, and must not

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cut timber or make use of national forest land without a permit, except within the limits and for the actual development of their claims. Any other use is forbidden."

"Regulation 6. Permits are necessary for all occupancy, uses, operations, or enterprises of any kind within national forests, whether begun before or after the national forest was established, except: (*a*) Upon patented lands; (*b*) upon valid claims for purposes necessary to their actual development and consistent with their character; * * *."

"Regulation 19. The following acts within national forests are hereby forbidden: * * * (*b*) Building roads, trails, railways, or tramways, and constructing ditches, dams, canals, pipe lines, flumes, tunnels, or reservoirs without a permit, or in violation of the terms of a permit, except as otherwise allowed by law, and except upon patented land, or upon a valid claim when necessary for the actual development of such claim consistent with the purposes for which it was initiated.

"(*c*) Erecting or conducting telephone, telegraph, or power lines, hotels, stores, sawmills, power plants, or other structures, or manufacturing or other business enterprises, or carrying on any kind of work, except as allowed by law and national forest regulations, and except upon patented land, or upon a valid claim for the actual development of such claim consistent with the purposes for which it was initiated."

And affiants aver that all the mining claims shown upon said Exhibit A and referred to above are valid and the property of the defendant as above set forth, and that the construction of the ditch and pipe lines across such of said claims as are crossed thereby is necessary for and entirely consistent with the actual mineral development thereof. Defendant is planning and intending to and will draw from said pipe lines and use upon and in the mineral development of each claim so crossed, as well as upon surrounding mining property, a large amount of the water flowing and to flow therein; and will use also in the mining of said claims and surrounding lands and in the milling and reduction of the ores there mined, a large amount of the electrical energy which is to be generated by defendant's said project: that said water and power thus made available will be plentiful and cheap, and will be necessary for and in and will make possible the mineral development of all said claims; that said claims could not be profitably mined or developed except by and through said project and the cheap and plentiful water and power thereby made available; and further, that as to the surplus water and power, in excess of that to be used upon the said claims actually crossed by said ditch and pipe lines, affiants say that the development and use and sale of such excess of power and water alone can and does make possible the development of the necessary cheap and plentiful water and power requisite for said claims actually crossed; that except for the development and sale of such excess power and water, said claims actually crossed could not be profitably developed, and that the development of such excess is consistent with and does not interfere with but alone makes possible the mineral development of said claims.

And affiants are advised and aver that the construction of said ditch and pipe lines across said claims is therefore valid and legal and permitted both by express provision of section 2322 of the United States Revised Statutes and by the terms of the rules and regulations above referred to. Clear proof of the mineral character and value of said claims is found in Exhibits I, K, L, M, O, R, S, T, W, which are filed herewith and made a part of this response; and defendant desires and intends to and will, by means of said water and power, work and develop the mineral deposits upon said claims.

6. That the said ditch and pipe line is but a modification, improvement, and shortening of the "Old Goleta Power Ditch" as shown on said Exhibit A, for which defendant owns and possesses a vested easement and right of way under the laws of the United States. See Exhibits F, L, K, which are filed with and made a part of this response. Said ditch as modified is and will be in fact shorter, more beneficial, and less of a burden upon the said described lands than was and would be said ditch unmodified; and affiants deny that the modification and changed construction of said ditch works any irreparable damage or injury or any damage or injury to complainant. The attached photograph No. 6 was taken upon the said lands and indicates the shortening of said ditch, and the statements thereon made are true.

7. That the entire line of said new ditch line is within and along a public highway and county road, and that the county supervisors of said Mono County have granted to defendant a permit and franchise for the construction of said ditch. (See Exhibits V and W filed herewith and made a part of this response.) And that said road will in the very near future be cleared, worked, and graded, and that the ditch and pipe-line construction work of defendant will not damage or injure either said public highway or said complainant.

8. Further affiants say that although there is no law, rule, or regulation requiring defendant to seek or secure any permit or permission to construct said ditch and pipe

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lines, and although it has full legal right so to do, nevertheless, the officers, agents, and representatives of the Department of Agriculture illegally and unreasonably demand and require of defendant that it seek and secure a so-called permit, and that it prepare and file as preliminary thereto elaborate and costly and unnecessary and unreasonable maps, plats, field notes, abstracts, specifications, and other data, and that it surrender and sign away its legal rights and valuable property. But defendant would be and is willing, rather than to suffer the loss and damage resultant from conflict with said officers and agents, to seek and do all other things necessary and required by said officers and agents in order to obtain their so-called permit for such construction, except for one particular arbitrary and unreasonable and clearly illegal demand and requirement of said officers and agents, to wit, said officers and agents without any right or authority in law or equity demand and require as a prerequisite to the granting of any permission to defendant to construct said project that defendant pay and agree and contract to pay for such permission large sums of money, to wit, approximately $200 to $300 per year, as a tax or pretended rental or so-called conservation charge, and that such demand is and all such demands are illegal and constitute and are attempts to deprive said defendant of its property without the process of law.

Wherefore defendant prays that said temporary restraining order be dissolved and that no injunction pendente lite or at all be granted, and that defendant be hence dismissed.

J. S. CAIN.
A. F. DIETER.

Subscribed and sworn to before me this 6th day of September, 1910.

[SEAL.] CENA DE ZALDO,
Notary Public, City and County of San Francisco, State of California.

DEFENDANTS' EXHIBIT B.

ARTICLES OF INCORPORATION OF THE HYDRO ELECTRIC CO.

Know all men by these presents:

That we, the undersigned, citizens and residents of the State of California, have this day voluntarily associated ourselves together for the purpose of forming a corporation under the laws of the State of California.

And we hereby certify—

First. That the name of said corporation shall be Hydro Electric Co.

Second. That the purposes for which it is formed are:

To appropriate, acquire, purchase, lease, condemn, hold, possess, sell, grant, convey, and assign watersheds, water sources, and the right to the use of running water flowing in rivers and streams;

To acquire, purchase, erect, construct, sell, equip, operate, and maintain any and all aqueducts, flumes, tunnels, pipes and pipe lines, reservoirs, dams, ditches, and other means necessary to convey or store water, and the sites therefor:

To acquire, purchase, sell, construct, equip, operate, and maintain pumps and pumping plants, electrical lighting and power plants, and all the necessary appurtenances thereto, and to use the power, product, and output thereof in its own business, and to transmit, lease, hire, distribute, and sell the same;

To purchase or otherwise acquire, hold, own, condemn, maintain, take bonds or options upon, survey, subdivide, plat, improve, mortgage, give deeds of trust upon, lease, rent, exchange, convey, assign, transfer, or otherwise dispose of or deal in or with real estate and real property of every kind and description, and any and all interests and rights therein; to secure rights of way and franchises of any kind or nature, and to exercise all the rights and privileges connected therewith; also to construct, erect, and maintain upon lands houses, buildings, machinery, and appliances of every kind and description;

To engage in, conduct, and carry on the business of general trader, and to operate and maintain hotels and boarding houses;

To buy or otherwise acquire, to hold, own, mortgage, pledge, sell, assign, and transfer or otherwise dispose of, and to invest in, trade in, and deal with any goods, wares, merchandise, and property of every class and description, including patents and patent rights, inventions or other improvements, trade-marks, options, and also bonds, mortgages, securities of any kind or description, or other evidences of indebtedness, and investment or investment securities of any kind or description whatsoever, or to act as the agent for the sale or purchase of the same, or for any other purpose connected with the said above-described powers, or any of them;

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To acquire the good will, rights, property, and assets of all kinds, and to undertake or assume the whole or any part of the liabilities of any person, firm, association, or corporation, and to pay for the same in cash, stock, bonds, debentures, or other securities of this or of any other corporation, or otherwise;

To hold, purchase, or otherwise acquire; to sell, assign, transfer, mortgage, pledge, or otherwise dispose of shares of the capital stock and bonds, debentures, or other evidences of indebtedness created by this or any other corporation; and while the owner thereof to exercise all the rights and privileges of ownership, including the right to vote thereon.

To exercise all or any of the above enumerated powers as well in trust for any other person, firm, association, or corporation, as for itself, said corporation hereby formed.

Generally to do and perform any and all acts and transactions necessary or proper to the furtherance and attainment of the purposes above set out, or any of them, or incidental thereto, which are now or may hereafter be authorized by law.

Third. That the place where the principal business of said corporation is to be carried on is the city and county of San Francisco, State of California.

Fourth. That the term for which said corporation is to exist is 50 years from and after the date of its incorporation.

Fifth. That the number of directors or trustees of said corporation shall be three, and that the names and residences of the directors or trustees who are appointed for the first year and to serve until the election and qualification of their successors, are as follows, to wit: Fred J. Koster, San Francisco, Cal.; John A. Koster, San Francisco, Cal.; Jas. H. Day, San Francisco, Cal.

Sixth. That the amount of the capital stock of said corporation is $1,000,000, and the number of shares into which it is divided is 10,000 of the par value of $100 per share.

Seventh. That the amount of said capital stock which has been actually subscribed is $300, and the following are the names of the persons by whom the same has been subscribed, to wit: Fred J. Koster, one share, $100; John A. Koster, one share, $100; Jas. H. Day, one share, $100.

In witness whereof, we have hereunto set our hands this 11th day of May, 1910.

FRED J. KOSTER.
JOHN A. KOSTER.
JAS. H. DAY.

STATE OF CALIFORNIA,
City and County of San Francisco, ss:

On this 11th day of May, in the year 1910, before me, Flora Hall, a notary public in and for the city and county of San Francisco, residing therein, duly commissioned and sworn, personally appeared Fred J. Koster, John A. Koster, and Jas. H. Day, known to me to be the persons whose names are subscribed to the within instrument, and they severally acknowledged to me that they executed the same.

In witness whereof, I have hereunto set my hand and affixed my official seal, in the said city and county of San Francisco, the day and year in this certificate first above written.

[SEAL.]

FLORA HALL,
Notary Public, City and County of San Francisco, State of California.

DEFENDANT'S EXHIBIT C 1.

LOCATION NOTICE.

Notice is hereby given that the undersigned citizen of the United States, in conformity with the Revised Statutes of the United States and local regulations, has this day located and claims 1,500 feet in length along the course of this ledge, vein, or lode of mineral-bearing quartz, together with 300 feet in width of surface ground, on each side of the center of the ledge, vein, or lode, and all minerals contained therein, timber and water rights thereon, and more particularly described as follows, to wit:

Commencing at this discovery, thence south 240 feet to lode stake; thence west 300 feet to corner No. 1; thence north 1,500 feet to corner No. 2; thence east 300 feet to lode stake; thence east 300 feet to corner No. 3; thence south 1,500 feet to corner No. 4, from which the one-half mile corner of secs. 13 and 14, T. 2 N., R. 25 E., M. D. M., bears east 240 feet; thence west 300 feet to lode stake, place of beginning.

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This claim is situated in the Mono Lake mining district, county of Mono, State of California, and shall be known as the Sunlight mining claim.

Located this 10th day of May, 1910.

J. A. CONWAY, *Locator.*

Witness:
W. O. BELL.

Recorded at request of J. A. Conway, May 14, 1910, at 5 minutes past 11 a. m.

GEO. DELURY, *County Recorder,*
By J. W. TOWLE, *Deputy Recorder.*

Recorded in liber M of mining locations at folio 119, records of Mono County, Cal.

LOCATION NOTICE, WOLF MINING CLAIM.

Notice is hereby given that the undersigned citizen of the United States, in conformity with the Revised Statutes of the United States and local regulations, have this day located and claim 1,500 feet in length along the course of this ledge, vein, or lode of mineral-bearing quartz, together with 300 feet in width of surface ground on each side of the center of the ledge, vein, or lode, and all minerals contained therein, timber and water rights thereon, and more particularly described as follows, to wit:

Commencing at the discovery, thence north 33° 15′ west 385 feet to corner No. 1; thence south 1,500 feet to corner No. 2; thence east 300 feet to lode stake; thence east 300 feet to corner No. 3, which is also corner No. 3 of Eagle mining claim; thence north 1,500 feet to corner No. 4, which is corner No. 2 of Eagle mining claim; thence west 300 feet to lode stake; thence west 300 feet to corner No. 1, place of beginning.

This claim is situated in the Mono Lake mining district, county of Mono, State of California, and shall be known as the Wolf mining claim.

Located this 10th day of May, 1910.

J. A. CONWAY, *Locator.*

Witness:
W. O. BELL.

Recorded at request of J. A. Conway, May 14, 1910, at 5 minutes past 11 a. m.

GEO. DELURY, *County Recorder,*
By J. W. TOWLE, *Deputy Recorder.*

Recorded in liber M of mining locations at folio 118, records of Mono County, Cal.

LOCATION NOTICE, JOHNNIE CON MINING CLAIM.

Notice is hereby given that the undersigned citizen of the United States, in conformity with the Revised Statutes of the United States and local regulations, has this day located and claims 1,500 feet in length along the course of this ledge, vein, or lode of mineral-bearing quartz, together with 300 feet in width of surface ground on each side of the center of the ledge, vein, or lode, and all minerals contained therein, timber and water rights thereon, and more particularly described as follows, to wit:

Commencing at the discovery, south 562 feet to lode stake; thence west 300 feet to corner No. 1; thence north 1,500 feet to corner No. 2; thence east 300 feet to lode stake; thence east 300 feet to corner No. 3, which is corner No. 2 of Sunlight mining claim; thence south 1,500 feet to corner No. 4, which is corner No. 1 of Sunlight mining claim; thence west 300 feet to lode stake, point of beginning.

This claim is situated in the Mono Lake mining district, county of Mono, State of California, and shall be known as the Johnnie Con mining claim.

Located this 10th day of May, 1910.

J. A. CONWAY, *Locator.*

Witness:
W. O. BELL.

Recorded at request of J. A. Conway, May 14, 1910, at 5 minutes past 11 a. m.

GEO. DELURY, *County Recorder,*
By J. W. TOWLE, *Deputy Recorder.*

Recorded in liber M of mining locations at folio 117, records of Mono County, Cal.

LOCATION NOTICE, EAGLE MINING CLAIM.

Notice is hereby given that the undersigned, citizen of the United States, in conformity with the Revised Statutes of the United States, and local regulations, has this day located and claims 1,500 feet in length along the course of this ledge, vein, or lode of mineral-bearing quartz, together with 300 feet in width of surface ground on

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each side of the center of the ledge, vein, or lode and all minerals contained therein, timber and water rights thereon, and more particularly described as follows, to wit:

Commencing at the discovery, from which corner No. 1 bears north 50° east, 200 feet from which the corner of secs. 11, 12, 13, 14, T. 2 N., R. 25 E., M. D. M., bears south, 360 feet to corner No. 3; thence south, 1,140 feet to corner No. 2; thence west, 300 feet to lode stake; thence north, 300 feet to corner No. 3; thence north, 1,500 feet to corner No. 4; thence east, 300 feet to lode stake; thence east, 300 feet to corner No. 1, point of beginning.

This claim is situated in the Mono mining district, county of Mono, State of California, and shall be known as the Eagle mining claim.

Located this 10th day of May, 1910.

J. A. CONWAY, *Locator.*

Witness:
W. O. BELL.

Recorded at request of J. A. Conway, May 14, 1910, at 5 minutes past 11 a. m.

GEO. DELURY, *County Recorder,*
By J. W. TOWLE, *Deputy Recorder.*

Recorded in liber "M" of mining locations at folio 117, records of Mono County, Cal.

LOCATION NOTICE, HIGH-GRADE MINING CLAIM.

Notice is hereby given that the undersigned, citizen of the United States, in conformity with the Revised Statutes of the United States, and local regulations, has this day located and claims 1,500 feet in length along the course of this ledge, vein, or lode of mineral-bearing quartz, together with 300 feet in width of surface ground on each side of the center of the ledge, vein, or lode, and all minerals contained therein, timber and water rights thereon, and more particularly described as follows, to wit:

Commencing at the discovery, thence south, 300 feet to lode stake; thence west, 300 feet to corner No. 1; thence north, 1,500 feet to corner No. 2; thence east, 300 feet to lode stake; thence east, 300 feet to corner No. 3, which is corner No. 2 of the Johnnie Con mining claim; thence west, 300 feet to lode stake, point of beginning.

This claim is situated in the Mono Lake mining district, county of Mono, State of California, and shall be known as the High Grade mining claim.

Located this 10th day of May, 1910.

J. A. CONWAY, *Locator.*

Witness:
W. O. BELL.

Recorded at request of J. A. Conway, May 14, 1910, at 5 minutes past 11 a. m.

GEO. DELURY, *County Recorder,*
By J. W. TOWLE, *Deputy Recorder.*

Recorded in liber "M" of mining locations at folio 119, records of Mono County, Cal.

LOCATION NOTICE, HALLEY MINING CLAIM.

Notice is hereby given that the undersigned, citizen of the United States, in conformity with the Revised Statutes of the United States, and local regulations, has this day located and claims 1,500 feet in length along the course of this ledge, vein, or lode of mineral-bearing quartz, together with 300 feet in width of surface ground on each side of the center of the ledge, vein, or lode, and all minerals contained therein, timber and water rights thereon, and more particularly described as follows, to wit:

Commencing at the discovery, thence north 300 feet to lode stake; thence west, 300 feet to corner No. 1; thence south, 1,500 feet to corner No. 2; thence east, 300 feet to lode stake; thence east, 300 feet to corner No. 3; which is corner No. 2 of Wolf mining claim; thence north, 1,500 feet to corner No. 4, which is corner No. 1 of Wolf mining claim; thence west, 300 feet to lode stake, point of beginning.

This claim is situated in the Mono Lake mining district, county of Mono, State of California, and shall be known as the Halley mining claim.

Located this 10th day of May, 1910.

J. A. CONWAY, *Locator.*

Witness:
W. O. BELL.

Recorded at request of J. A. Conway, May 14, 1910, at 5 minutes past 11 a. m.

GEO. DELURY, *County Recorder,*
By J. W. TOWLE, *Deputy Recorder.*

Recorded in liber "M" of mining locations at folio 120, records of Mono County, Cal.

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STATE OF CALIFORNIA, *County of Mono, ss:*

I, George Delury, county recorder in and for the county of Mono, State of California, do hereby certify that the within and foregoing is full, true, and correct copies of notices of location of the following-named mining claims, viz: The Sunlight mining claim, the High Grade mining claim, the Johnnie Con mining claim, the Eagle mining claim, the Wolf mining claim, and the Halley mining claim.

All situated in Mono Lake mining district, Mono County, Cal.

Located by J. A. Conway, May 10, 1910, as the same appears of record in my office.

In witness whereof I have hereunto set my hand and affixed my official seal this 2d day of September, A. D. 1910.

[SEAL.]

GEO. DELURY,
County Recorder Mono County, Cal.

DEFENDANT'S EXHIBIT C 2.

John A. Conway to the Hydro Electric Co.

This indenture, made the 26th day of July, 1910, between John A. Conway, of Mono Lake, Mono County, State of California, the party of the first part, and The Hydro Electric Co., of Bodie, Mono County, State of California, a corporation organized and existing under the laws of the State of California, the party of the second part,

Witnesseth, that the said party of the first part, in consideration of the sum of $10 gold coin of the United States of America, to him in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, does by these presents quit-claim unto the said party of the second part, and to its heirs and assigns, all those certain mining claims situated in the Mono Lake mining district, county of Mono, State of California, bounded and particularly described as follows, to wit:

Commencing at the discovery and thence south 240 feet to lode stake; thence west 300 feet to corner No. 1; thence north 1,500 feet to corner No. 2; thence east 300 feet to lode stake; thence east 300 feet to corner No. 3; thence south 1,500 feet to corner No. 4, from which the half-mile corner of secs. 13 and 14, T. 2 N., R. 25 E., M. D. M., bears east 240 feet; thence west 300 feet to lode stake, place of beginning, and known as the Sunlight mining claim, being the claim described in liber "M," folio 119, records of Mono County, Cal., under date of May 14, 1910.

Also commencing at the discovery; thence north 300 feet to lode stake; thence west 300 feet to corner No. 1; thence south 1,500 feet to corner No. 2; thence east 300 feet to lode stake; thence east 300 feet to corner No. 3, which is corner No. 2 of Wolf mining claim; thence north 1,500 feet to corner No. 4, which is corner No. 1 of Wolf mining claim; thence west 300 feet to lode stake, point of beginning, known as the Halley mining claim, and recorded in liber "M," folio 120, records of Mono County, Cal., under date of May 14, 1910.

Also commencing at the discovery; thence south 300 feet to lode stake; thence west 300 feet to corner No. 1; thence north 1,500 feet to corner No. 2; thence east 300 feet to lode stake; thence east 300 feet to corner No. 3, which is corner No. 2 of Johnnie Con mining claim; thence south 1,500 feet to corner No. 4, which is corner No. 1 of Johnnie Con mining claim; thence west 300 feet to lode stake, point of beginning, and known as the High Grade mining claim, described in Liber "M," folio 119, records of Mono County, Cal., under date of May 14, 1910.

Also commencing at the discovery; thence south 562 feet to lode stake; thence west 300 feet to corner No. 1; thence north 1,500 feet to corner No. 2; thence east 300 feet to lode stake; thence east 300 feet to corner No. 3, which is corner No. 2 of Sunlight mining claim; thence south 1,500 feet to corner No. 4, which is corner No. 1 of Sunlight mining claim; thence west 300 feet to lode stake, point of beginning, known as the Johnnie Con mining claim, described in Liber "M," folio 117, records of Mono County, Cal., under date of May 14, 1910.

Also commencing at the discovery; thence north, 33° 15′ west, 385 feet to corner No. 1; thence south 1,500 feet to corner No. 2; thence east 300 feet to lode stake; thence east 300 feet to corner No. 3, which is also corner No. 3 of Eagle mining claim; thence north 1,500 feet to corner No. 4, which is corner No. 2 of the Eagle mining claim; thence west 300 feet to lode stake; thence west 300 feet to corner No. 1, point of beginning, known as the Wolf mining claim, and described in Liber "M," folio 116, of the records of Mono County, Cal., under date of May 14, 1910.

Also commencing at the discovery, from which corner No. 1 bears north 50°, east 200 feet, from which the corner of secs, 11, 12, 13, 14, T. 2 N, R. 25 E., M. D. M., bears south 360 feet; thence south 1,140 feet to corner No. 2; thence west 300 feet to lode

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stake; thence west 300 feet to corner No. 3; thence north 1,500 feet to corner No. 4; thence east 300 feet to lode stake; thence east 300 feet to corner No. 1, point of beginning, known as the Eagle mining claim, and described in Liber "M," folio 117, of the records of Mono County, Cal., under date of May 14, 1910.

Together with all dips, spurs, angles, ores, and rock in place, all the rights, privileges, and franchises thereto incident, appurtenant, and therewith usually had and enjoyed; and also all and singular the tenements, hereditaments, and appurtenances thereunto belonging, or in any wise appertaining.

In witness whereof the said party of the first part has hereunto set his hand and seal, the day and year first above written.

J. A. CONWAY. [SEAL.].

STATE OF CALIFORNIA, *County of Mono, ss:*

On this 26th day of July, in the year 1910, before me, O. F. Hakes, a notary public in and for the county of Mono, personally appeared J. A. Conway, known to me to be the same person whose name is subscribed to the within instrument, and he duly acknowledged to me that he executed the same.

In witness whereof I have hereunto set my hand and affixed my official seal at my office in the county of Mono, the day and year in this certificate first above written.

[L. S.] O. F. HAKES,
Notary Public, County of Mono, State of California.

Recorded at the request of the Hydro Electric Co., July 28, 1910, at 5 minutes past 10 a. m.

GEO. DELURY, *County Recorder.*
By J. W. TOWLE, *Deputy Recorder.*

Recorded in liber "Y" of Mining Deeds at folio 92, records of Mono County, Cal.

STATE OF CALIFORNIA, *County of Mono, ss:*

I, George Delury, county recorder in and for the county of Mono, State of California, do hereby certify that the within and foregoing is a full, true, and correct copy of deed conveying the following-named mining claims, viz: The Sunlight mining claim, the Halley mining claim, the High Grade mining claim, the Johnie Con. mining claim, the Wolf mining claim, the Eagle mining claim, conveyed by J. A. Conway to the Hydro Electric Co., as the same appears of record in my office.

In witness whereof I have hereunto set my hand and affixed my official seal this 31st day of August, A. D. 1910.

[SEAL.] GEO. DELURY,
County Recorder, Mono County, Cal.

DEFENDANT'S EXHIBIT C 3.

LOCATION NOTICE, PINE TREE MINING CLAIM.

Notice is hereby given that the undersigned, citizen of the United States, in conformity with the Revised Statutes of the United States and local regulations, have this day located and claimed 1,500 feet in length along the course of this ledge, vein, or lode of mineral-bearing quartz, together with 300 feet in width of surface ground on each side of the center of the ledge, vein, or lode, and all minerals contained therein, timber and water rights thereon, and more particularly described as follows, to wit: Commencing at the lode stake on south line of claim; thence east 300 feet to corner No. 1, from which one-half mile corner between secs. 13–14, T. 2 N., R. 25 E. bears east 2,050 feet; thence north 1,500 feet to corner No. 1; thence west 300 feet to lode stake; thence west 300 feet to corner No. 3; thence south 1,500 feet to corner No. 4; thence east 300 feet to corner No. 1, point of beginning.

This claim is situated in the Mono Lake mining district, county of Mono, State of California, and shall be known as the Pine Tree mining claim.

Located this 5th day of March, 1910.

FRANCIS BURKE, *Locator.*

Recorded at request of Francis Burke, June 1, 1910, at 5 minutes past 11 a. m.

GEO. DELURY, *County Recorder.*

Recorded in Liber "M" of mining locations at folio 136, Records of Mono County, Cal.

STATE OF CALIFORNIA, *County of Mono, ss:*

I, George Delury, county recorder in and for the county of Mono, State of California, do hereby certify that the foregoing is a full, true, and correct copy of location notice

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of the Pine Tree mining claim, situated in the Mono Lake mining district, county of Mono, State of California, located by Francis Burke, June 1, 1910, as the same appears of record in my office.

In withness whereof I have hereunto set my hand and affixed my official seal this 2d day of September, A. D. 1910.

[SEAL.]

GEO. DELURY,
County Recorder, Mono County, Cal.

DEFENDANT'S EXHIBIT C 4.

Francis Burke to Hydro Electric Co.

This indenture, made the 22d day of July, 1910, between Francis Burke, of Mono Lake, Mono County, State of California, the party of the first part, and the Hydro Electric Co., a corporation organized and existing under the laws of the State of California, the party of the second part.

Witnesseth that the party of the first part, in consideration of the sum of $10 gold coin of the United States of America to him in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, does by these presents quitclaim unto the said party of the second part and to his heirs and assigns all that certain mining claim situated in the Mono Lake mining district, county of Mono, State of California, bounded and described as follows, to wit: Commencing at lode stake on south line of claim, thence east 300 feet to corner No. 1, from which one-half corner between sections 13 and 14, township 2 north, range 25 east, bears east 2,050 feet; thence north 1,500 feet to corner No. 1; thence west 300 feet to lode stake; thence west 300 feet to corner No. 3; thence south 1,500 feet to corner No. 4; thence east 300 feet to corner No. 1, point of beginning, known as the Pine Tree mining claim, said claim being that which is recorded in liber "M," folio 136, records of Mono County, Cal., under date of June 1, 1910, together with all the rights, privileges, and franchises thereto incident, appurtenant, and therewith usually had and enjoyed, and also all and singular the tenements, hereditaments, and appurtenances thereto belonging or in anywise appertaining.

In witness whereof the said party of the first part has hereunto set his hand and seal the day and year first above written.

FRANCIS BURKE. [SEAL.]

STATE OF CALIFORNIA,
County of Mono, ss:

On this 22d day of July, 1910, before me, O. F. Hakes, a notary public in and for the county of Mono, personally appeared Francis Burke, known to me to be the same person whose name is subscribed to the within instrument, and he duly acknowledged to me that he executed the same.

In witness whereof I have hereunto set my hand and affixed my official seal at my office in the county of Mono the day and year in this certificate first above written.

[L. S.]

O. F. HAKES,
Notary Public in and for the County of Mono, State of California.

Recorded at request of Hydro Electric Co., July 27, 1910, at 5 minutes past 2 p. m.

GEO. DELURY, *County Recorder.*

Recorded in liber "Y" of mining deeds at folio 90, records of Mono County, Cal.

STATE OF CALIFORNIA,
County of Mono, ss:

I, George Delury, county recorder in and for the county of Mono, State of California, do hereby certify that the within and foregoing is a full, true, and correct copy of deed of conveyance of the Pine Tree mining claim, conveyed by Francis Burke to the Hydro Electric Co., as the same appears of record in my office.

In witness whereof I have hereunto set my hand and affixed my official seal this 31st day of August, A. D. 1910.

[SEAL.]

GEO. DELURY,
County Recorder, Mono County, Cal.

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DEFENDANT'S EXHIBIT C 5.

LOCATION NOTICE.

Notice is hereby given that the undersigned, citizen of the United States, in conformity with the Revised Statutes of the United States, and local regulations, have this day located and claim 1,500 feet in length along the course of this ledge, vein or lode of mineral-bearing quartz, together with 300 feet in width of surface ground on each side of the center of the ledge, vein or lode, and all minerals contained therein, timber and water rights thereon, and more particularly described as follows, to wit:

Commencing at this post and monument in the center of the south end lode line, and running in a northerly direction 1,500 feet to the north line of section 14, township 2 north, range 25 east, M. D. M., adjoining the south end line of the Goleta Consolidated patented mining claim known as Iron Mountain.

This claim is situated in the Jordan mining district, county of Mono, State of California, and shall be known as the Mattly No. 1 mining claim.

Located this 1st day of January, 1910.

F. D. MATTLY, *Locator.*

Recorded at request of F. D. Mattly, January 4, 1910, at 5 minutes past 3 p. m.

GEO. DELURY, *County Recorder,*
By J. W. TOWLE, *Deputy Recorder.*

Recorded in liber "L" of mining locations at folio 563, rocords of Mono County, Cal.

LOCATION NOTICE.

Notice is hereby given that the undersigned, citizen of the United States, in conformity with the Revised Statutes of the United States, and local regulations, have this day located and claim 1,500 feet in length along the course of this ledge, vein or lode of mineral-bearing quartz, together with 300 feet in width of surface ground on each side of the center of the ledge, vein or lode, and all minerals contained therein, timber and water rights thereon, and more particularly described as follows, to wit:

Commencing at this post and monument in the center of the south end line, running in a northerly direction 1,500 feet to the north line of section 14, township 2 north, range 25 east, M. D. M., adjoining and running parallel with the west side line of Mattly No. 1 mining claim.

This claim is situated in the Jordan mining district, county of Mono, State of alifornia, and shall be known as the Mattly No. 2 mining claim.

Located this 1st day of January, 1910.

F. D. MATTLY, *Locator.*

Recorded at request of F. D. Mattly, January 4, 1910, at 5 minutes past 3 p. m.

GEO. DELURY, *County Recorder,*
By J. W. TOWLE, *Deputy Recorder.*

Recorded in liber "L" of mining locations at folio 563, records of Mono County, Cal.

LOCATION NOTICE.

Notice is hereby given that the undersigned, citizen of the United States, in conformity with the Revised Statutes of the United States, and local regulations has this day located and claims 1,500 feet in length along the course of this ledge, vein or lode of mineral-bearing quartz, together with 300 feet in width of surface ground on each side of the center of the ledge, vein or lode, and all minerals contained therein, timber and water rights thereon, and more particularly described as follows, to wit:

Commencing at this post and monument in the center of the south end lode line and running in a northerly direction 1,500 feet to the north line of section 14, township 2 north, range 25 east, M. D. M., adjoining and running parallel with the west side line of Mattly No. 2 mining claim.

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This claim is situated in the Jordan mining district, county of Mono, State of California, and shall be known as the Mattly No. 3 mining claim.

Located this 1st day of January, 1910.

F. D. MATTLY, *Locator.*

Recorded at request of F. D. Mattly, January 4, 1910, at 5 minutes past 3 p. m.

GEO. DELURY, *County Recorder,*
By J. W. TOWLE, *Deputy Recorder.*

Recorded in liber "L" of mining locations at folio 564, records of Mono County, Cal.

LOCATION NOTICE.

Notice is hereby given that the undersigned, citizen of the United States, in conformity with the Revised Statutes of the United States and local regulations, has this day located and claims 1,500 feet along the course of this ledge, vein, or lode of mineral-bearing quartz, together with 300 feet in width of surface ground on each side of the center of the ledge, vein, or lode, and all minerals contained therein, timber and water rights thereon, and more particularly described as follows: to wit:

Commencing at this post and monument in the center of the south end lode line and running in a northerly direction 1,500 feet to the north line of section 14, township 2 north, range 25 east, M. D. M., adjoining and running parallel with the west side line of Mattly No. 3, mining claim.

This claim is situated in the Jordan mining district, county of Mono, State of California, and shall be known as the Mattly No. 4, mining claim.

Located this 1st day of January, 1910.

F. D. MATTLY, *Locator.*

Recorded at request of F. D. Mattly, January 4, 1910, at 5 minutes past 3 p. m.

GEO. DELURY, *County Recorder,*
By J. W. TOWLE, *Deputy Recorder.*

Recorded in liber "L" of mining locations at folio 564, records of Mono County, Cal.

LOCATION NOTICE.

Notice is hereby given that the undersigned, citizen of the United States, in conformity with the Revised Statutes of the United States and local regulations, has this day located and claims 1,500 feet in length along the course of this ledge, vein, or lode of mineral-bearing quartz, together with 300 feet in width of surface ground on each side of the center of the ledge, vein, or lode, and all minerals contained therein, timber and water rights thereon, and more particularly described as follows, to wit:

Commencing at this post and monument in the center of the north end lode line and running in a southerly direction 1,500 feet to the south line of section 11, township 2 north, range 25 east, M. D. M., adjoining the north end line of Mattly No. 2, mining claim. This claim runs parallel with the west side line of the Goleta Consolidated patented mining claim, known as Iron Mountain.

This claim is situated in the Jordan mining district, county of Mono, State of California, and shall be known as the Mattly No. 5, mining claim.

Located this 1st day of January, 1910.

F. D. MATTLY, *Locator.*

Recorded at request of F. D. Mattly, January 4, 1910, at 5 minutes past 3 p. m.

GEO. DELURY, *County Recorder,*
By J. W. TOWLE, *Deputy Recorder.*

Recorded in liber "L" of mining locations at folio 565, records of Mono County, Cal.

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LOCATION NOTICE.

Notice is hereby given that the undersigned, citizen of the United States, in conformity with the Revised Statutes of the United States and local regulations, has this day located and claims 1,500 feet in length along the course of this ledge, vein, or lode of mineral-bearing quartz, together with 300 feet of surface ground on each side of the center of the ledge, vein, or lode, and all minerals contained therein, timber and water rights thereon, and more particularly described as follows, to wit:

Commencing at this post and monument in the center of the north end lode line and running in a southerly direction 1,500 feet to the south line of section 11, township 2 north, range 25 east, M. D. M., adjoining the north end line of Mattly No. 3, mining claim. This claim runs parallel with the west side line of the Mattly No. 5, mining claim. This claim is situated in the Jordan mining district, county of Mono, State of California, and shall be known as the Mattly No. 6, mining claim.

Located this 1st day of January, 1910.

F. D. MATTLY, *Locator.*

Recorded at request of F. D. Mattly, January 4, 1910, at 5 minutes past 3 p. m.

GEO. DELURY, *County Recorder,*
By J. W. TOWLE, *Deputy Recorder.*

Recorded in liber "L" of mining locations at folio 566, records of Mono County, Cal.

LOCATION NOTICE.

Notice is hereby given that the undersigned, citizen of the United States, in conformity with the Revised Statutes of the United States and local regulations, has this day located and claims 1,500 feet in length along the course of this ledge, vein, or lode of mineral-bearing quartz, together with 300 feet in width of surface ground on each side of the center of the ledge, vein, or lode, and all minerals contained therein, timber and water rights thereon, and more particularly described as follows, to wit:

Commencing at this post and monument in the center of the north end lode line and running in a southerly direction 1,500 feet to the south line of section 11, township 2 north, range 25 east, M. D. M., adjoining the north end line of Mattly No. 4 mining claim, this claim runs parallel with the west side line of the Mattly No. 6 mining claim.

This claim is situated in the Jordan mining district, county of Mono, State of California, and shall be known as the Mattly No. 7 mining claim.

Located this 1st day of January, 1910.

F. D. MATTLY, *Locator.*

Recorded at request of F. D. Mattly, January 4, 1910, at 5 minutes past 3 p. m.

GEO. DELURY, *County Recorder,*
By J. W. TOWLE, *Deputy Recorder.*

Recorded in liber "L" of mining locations at folio 567, records of Mono County, Cal.

LOCATION NOTICE.

Notice is hereby given that the undersigned, citizen of the United States, in conformity with the Revised Statutes of the United States and local regulations, has this day located and claims 1,500 feet in length along the course of this ledge, vein, or lode of mineral-bearing quartz, together with 300 feet in width of surface ground on each side of the center of the ledge, vein, or lode, and all minerals contained therein, timber and water rights thereon, and more particularly described as follows, to wit;

Commencing at this post and monument in the center of the south end lode line adjoining the Mattly No. 5 mining claim, and running in a northerly direction 1,500 feet to the center line of section 11, township 2 north, range 25 east, M. D. M., this claim runs parallel with and adjoins the west side line of the Goleta Consolidated patented mining claim, known as Paraclete.

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This claim is situated in the Jordan mining district, county of Mono, State of California, and shall be known as the Mattly No. 8 mining claim.

Located this 1st day of January, 1910.

F. D. MATTLY, *Locator.*

Recorded at request of F. D. Mattly, January 4, 1910, at 5 minutes past 3 p. m.

GEO. DELURY, *County Recorder,*
By J. W. TOWLE, *Deputy Recorder.*

Recorded in liber "L" of mining locations at folio 567, records of Mono County, Cal.

LOCATION NOTICE.

Notice is hereby given that the undersigned, citizen of the United States, in conformity with the Revised Statutes of the United States and local regulations, has this day located and claims 1,500 feet in length along the course of this ledge, vein, or lode of mineral-bearing quartz, together with 300 feet in width of surface ground on each side of the center of the ledge, vein, or lode, and all minerals contained therein, timber and water rights thereon, and more particularly described as follows, to wit:

Commencing at this post and monument in the center of the south end lode line, adjoining the Mattly No. 6 mining claim, and running in a northerly direction 1,500 feet to the center line of section 11, township 2 north, range 25 east, M. D. M., this claim runs parallel with and adjoins the west side line of the Mattly No. 3 mining claim.

This claim is situated in the Jordan mining district, county of Mono, State of California, and shall be known as the Mattly No. 9 mining claim.

Located this 1st day of January, 1910.

F. D. MATTLY, *Locator.*

Recorded at request of F. D. Mattly, January 4, 1910, at 5 minutes past 3 p. m.

GEO. DELURY, *County Recorder,*
By J. W. TOWLE, *Deputy Recorder.*

Recorded in liber "L" of mining locations at folio 568, records of Mono County, Cal.

LOCATION NOTICE.

Notice is hereby given that the undersigned citizen of the United States, in conformity with the Revised Statutes of the United States and local regulations, has this day located and claims 1,500 feet in length along the course of this ledge, vein, or lode of mineral-bearing quartz, together with 300 feet in width of surface ground on each side of the center of the ledge, vein, or lode, and all minerals contained therein, timber and water rights thereon, and particularly described as follows, to wit:

Commencing at this post and monument in the center of the south end lode line, adjoining the Mattly No. 8 mining claim, and running in a northerly direction 1,500 feet to the east and west center line of the northwest quarter of section 11, township 2 north, range 25 east, M. D. M.

This claim runs parallel with and adjoins the west side line of the Goleta Consolidated patented mining claim, known as Apex.

This claim is situated in the Jordan mining district, county of Mono, State of California, and shall be known as the Mattly No. 10, mining claim.

Located this 1st day of January, 1910.

F. D. MATTLY, *Locator.*

Recorded at request of F. D. Mattly, January 4, 1910, at 5 minutes past 3 p. m.

GEO. DELURY, *County Recorder,*
By J. W. TOWLE, *Deputy Recorder.*

Recorded in liber "L" of mining locations at folio 569, records of Mono County, Cal.

STATE OF CALIFORNIA,
County of Mono, ss:

I, George Delury, county recorder in and for the county of Mono, State of California, do hereby certify that the within and foregoing is full, true, and correct copies of notices of locations of the following-named mining locations made by F. D. Mattly, in Jordan mining district, county of Mono, State of California, viz: The Mattly Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10, as the same appears of record in this office.

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In witness whereof, I have hereunto set my hand and affixed my official seal this 1st day of September, A. D. 1910.

[SEAL.]

GEO. DELURY,
County Recorder, Mono County, Cal.

DEFENDANT'S EXHIBIT C 6.

F. D. Mattly to J. S. Cain.

This indenture, made the 22d day of January, 1910, between F. D. Mattly, of Jordan, Mono County, State of California, the party of the first part, and J. S. Cain, of Bodie, Mono County, State of California, the party of the second part,

Witnesseth that the party of the first part, in consideration of the sum of $250 gold coin of the United States of America, to him in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, does by these presents quitclaim unto the said party of the second part and to his heirs and assigns all those certain mining claims, situated in the Jordan mining district, County of Mono, State of California, bounded and described as follows, to wit:

That certain quartz mine and mining claim known as the Mattly No. 1, situated in the Jordan mining district, county of Mono, State of California, located on the 1st day of January, 1910, and recorded January 4, 1910, in liber "L," folio 563, of mining locations records of Mono County, Cal.

Also that certain quartz mine and mining claim known as the Mattly No. 2, situated in Jordan mining district, county of Mono, State of California, located on the 1st day of January, 1910, and recorded January 4, 1910, in liber "L," folio 563, of mining locations records of Mono County, Cal.

Also that certain quartz mine and mining claim known as the Mattly No. 3, situated in Jordan mining district, county of Mono, State of California, located on the 1st day of January, 1910, and recorded January 4, 1910, in liber "L," folio 564, of mining locations records of Mono County, Cal.

Also that certain mine and mining claim known as the Mattly No. 4, situated in Jordan mining district, county of Mono, State of California, located on the 1st day of January, 1910, and recorded January 4, 1910, in liber "L," folio 564, of mining locations records of Mono County, Cal.

Also that certain quartz mine and mining claim known as the Mattly No. 5, situated in the Jordan mining district, county of Mono, State of California, located on the 1st day of January, 1910, and recorded January 4, 1910, in liber "L," folio 565, of mining locations records of Mono County, Cal.

Also that certain quartz mine and mining claim known as the Mattly No. 6, situated in the Jordan mining district, county of Mono, State of California, located on the 1st day of January, 1910, and recorded January 4, 1910, in liber "L," folio 566, of mining locations records of Mono County, Cal.

Also that certain quartz mine and mining claim known as the Mattly No. 7, situated in Jordan mining district, county of Mono, State of California, located January 1, 1910, and recorded January 4, 1910, in liber "L," folio 567, of mining locations records of Mono County, Cal.

Also that certain quartz mine and mining claim known as the Mattly No. 8, situated in Jordan mining district, county of Mono, State of California, located on the 1st day of January, 1910, and recorded January 4, 1910, in liber "L," folio 567, mining locations records of Mono County, Cal.

Also that certain quartz mine and mining claim known as the Mattly No. 9, situated in the Jordan mining district, county of Mono, State of California, located on the 1st day of January, 1910, and recorded January 4, 1910, in liber "L," folio 568, of mining locations records of Mono County, Cal.

Also that certain quartz mine and mining claim known as the Mattly No. 10, situated in Jordan mining district, county of Mono, State of California, located on the 1st day of January, 1910, and recorded January 4, 1910, in liber "L," folio 569, of mining locations records of Mono County, Cal.

The above-mentioned mining claims are situated in township 2 north, range 25 east, M. D. M., in Jordan mining district, Mono County, Cal.

Together with all the rights, privileges, and franchises thereto incident, appurtenant, and therewith usually had and enjoyed, and also all and singular the tenements hereditaments, and appurtenance thereto belonging or in anywise appertaining.

In witness whereof the said party of the first part has hereunto set his hand and seal the day and year first above written.

F. D. MATTLY. [SEAL.]

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STATE OF CALIFORNIA,
County of Mono, ss:

On this 22d day of January, in the year 1910, before me, O. F. Hakes, a notary public in and for the county of Mono, personally appeared F. D. Mattly, known to me to be the person whose name is subscribed to the within instrument, and he duly acknowledged to me that he executed the same.

In witness whereof I have hereunto set my hand and affixed my official seal at my office in the county of Mono, the day and year in this certificate first above written.

[L. S.] O. F. HAKES,
Notary Public in and for the County of Mono, State of California.

Recorded at request of J. S. Cain, March 12, 1910, at five minutes past 11 a. m.

GEO. DELURY, *County Recorder,*
By J. W. TOWLE, *Deputy Recorder.*

Recorded in liber "Y" of mining deeds at folio 65, records of Mono County, Cal.

STATE OF CALIFORNIA,
County of Mono, ss:

I, George Delury, county recorder in and for the county of Mono, State of California, do hereby certify that the within and foregoing is a full, true, and correct copy of deed made by F. D. Mattly, conveying to J. S. Cain the following mining claims situated in Jordan mining district, county of Mono, State of California, and named as follows, viz: The Mattly Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10, as the same appears of record in my office.

In witness whereof I have hereunto set my hand and affixed my official seal, this 31st day of August, A. D. 1910.

[SEAL.] GEO. DELURY,
County Recorder, Mono County, Cal.

DEFENDANT'S EXHIBIT C 7.

J. S. Cain to the Hydro Electric Co.

This indenture, made the 22d day of July, 1910, between J. S. Cain, of Bodie, Mono County, State of California, the party of the first part, and the Hydro Electric Co., of Bodie, Mono County, State of California, the party of the second part,

Witnesseth that the party of the first part, in consideration of the sum of $10 gold coin of the United States of America, to him in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, does by these presents quitclaim unto the said party of the second part, and to its heirs and assigns, all those certain mining claims, situated in the Jordan mining district, county of Mono, State of California, bounded and described as follows, to wit:

That certain quartz mine and mining claim known as the Mattly No. 1, situated in Jordan mining district, county of Mono, State of California, located on the 1st day of January, 1910, and recorded January 4, 1910, in liber "L," folio 563, of mining locations, records of Mono County, Cal.

Also that certain quartz mine and mining claim known as the Mattly No. 2, situated in Jordan mining district, county of Mono, State of California, located on the 1st day of January, 1910, and recorded January 4, 1910, in liber "L," folio 563, of mining locations, records of Mono County, Cal.

Also that certain quartz mine and mining claim known as the Mattly No. 3, situated in Jordan mining district, County of Mono, State of California, located on the 1st day of January, 1910, and recorded January 4, 1910, in liber "L," folio 564, of mining locations, records of Mono County, Cal.

Also that certain quartz mine and mining claim known as the Mattly No. 4, situated in Jordan mining district, county of Mono, State of California, located on the 1st day of January, 1910, and recorded January 4, 1910, in liber "L," folio 564, of mining locations, records of Mono County, Cal.

Also that certain quartz mine and mining claim known as the Mattly No. 5, situated in Jordan mining district, county of Mono, State of California, located on the 1st day of January, 1910, and recorded January 4, 1910, in liber "L," folio 565, records of Mono County, Cal.

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Also that certain quartz mine and mining claim, known as the Mattly No. 6, situated in Jordan mining district, county of Mono, State of California, located on the 1st day of January, 1910, and recorded January 4, 1910, in liber "L," folio 566, of mining locations, records of Mono County, Cal.

Also that certain quartz mine and mining claim, known as the Mattly No. 7, situated in Jordan mining district, county of Mono, State of California, located on the 1st day of January, 1910, and recorded January 4, 1910, in liber "L," folio 567, of mining locations, records of Mono County, Cal.

Also that certain quartz mine and mining claim, known as the Mattly No. 8, situated in Jordan mining district, county of Mono, State of California, located on the 1st day of January, 1910, and recorded January 4, 1910, in liber "L," folio 567, of mining locations, records of Mono County, Cal.

Also that certain quartz mine and mining claim, known as the Mattly No. 9, situated in Jordan mining district, county of Mono, State of California, located on the 1st day of January, 1910, and recorded January 4, 1910, in liber "L," folio 568, of mining locations, records of Mono County, Cal.

Also that certain quartz mine and mining claim known as the Mattly No. 10, situated in Jordan mining district, county of Mono, State of California, located on the 1st day of January, 1910, and recorded January 4, 1910, in liber "L," folio 569, of mining locations, records of Mono County, Cal.

The above-mentioned mining claims are situated in T. 2 N., R. 25 E., M. D. M., in Jordan mining district, Mono County, Cal.

Together with all the rights, privileges, and franchises thereto incident, appurtenant, and therewith usually had and enjoyed, and also all and singular the tenements, hereditaments, and appurtenances thereto belonging or in anywise appertaining.

In witness whereof the said party of the first part has hereunto set his hand and seal the day and year first above written.

J. S. CAIN. [SEAL.]

STATE OF CALIFORNIA,
County of Mono, ss:

On this 22d day of July, in the year 1910, before me, O. F. Hakes, a notary public in and for the county of Mono, personally appeared J. S. Cain, known to me to be the same person whose name is subscribed to the within instrument, and he duly acknowledged to me that he executed the same.

In witness whereof I have hereunto set my hand and affixed my official seal at my office in the county of Mono the day and year in this certificate first above written.

[L. S.] O. F. HAKES,
Notary Public in and for the County of Mono, State of California.

Recorded at request of Hydro Electric Co., July 28, 1910, at 5 minutes past 10 a. m.

GEO. DELURY, *County Recorder,*
By J. W. TOWLE, *Deputy Recorder.*

Recorded in liber "Y" of mining deeds at folio 94, records of Mono County, Cal.

STATE OF CALIFORNIA,
County of Mono, ss:

I, George Delury, county recorder in and for the county of Mono, State of California, do hereby certify that the within and foregoing is a full, true, and correct copy of deed made by J. S. Cain to the Hydro Electric Co., conveying the following-named quartz mining claims, viz, the Mattly Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10, situated in Jordan mining district, county of Mono, State of California, as the same appears of record in my office.

In witness whereof I have hereunto set my hand and affixed my official seal this 31st day of August, A. D. 1910.

[SEAL.] GEO. DELURY,
County Recorder, Mono County, Cal.

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DEFENDANT'S EXHIBIT D.

In the Circuit Court of the United States, Ninth Circuit, Northern District of California. United States of America, complainant, *v.* Hydro Electric Co., a corporation, defendant. Affidavit in response to order to show cause.

UNITED STATES OF AMERICA,
Northern District of California, County of Mono, ss:

Charles Sotiras, being first duly sworn, deposes and says:

Affiant is a resident of Bishop, Inyo County, Cal., and not a party to nor interested in the above-entitled suit.

Affiant is thoroughly familiar with the land described in the bill of complaint in the above-entitled suit and knows the character and condition thereof.

Affiant says that all said land is rough, precipitous, rocky, and barren.

Affiant says also that he is familiar with the pipe-line, ditch, and flume referred to in said bill of complaint and crossing said lands.

Affiant says that the said ditch is, and at the time of the issuance and service of the temporary restraining order in the above-entitled suit was, entirely and completely dug and excavated throughout its entire length across all said lands.

Said ditch was dug and excavated under the personal direction and supervision of affiant, and affiant says that in the digging and excavation of said ditch no tree, seedling, shrub, grass, or herbage of any kind or character was cut, destroyed, or injured, except a few small, scattering, and totally valueless bunches or bushes of sagebrush; and that neither the roots nor branches of any tree were cut, injured, or destroyed.

Affiant says that upon all said lands there are not within a distance of 100 feet on either or both sides of said ditch altogether as many as eight trees; nor is there any other growth of trees, shrubs, grasses, or herbage, except a few small, scattering, and totally valueless bunches or bushes of sagebrush.

Affiant says that the digging and excavating of said ditch has not in any way or to any extent, or in any amount, damaged any of said lands, and in particular affiant says that the laying of wood or steel pipe within said ditch, already dug and excavated as above set forth, and the refilling of said ditch and the covering of such pipe so laid in said ditch need not, and will not, cause any irreparable damage or injury, or any substantial damage or injury, or any damage or injury at all whatever to said lands, or any part or portion thereof, or to any tree, seedling, shrub, grass, or herbage growing thereon; and affiant says further that in the refilling of said ditch and in the covering of any wood or steel pipe line laid therein no tree, seedling, shrub, grass, or herbage at all whatever growing or being upon any of said lands need or will be cut, injured, destroyed, trod upon, or trampled down, except a few small, scattering, and utterly valueless bunches and bushes of sagebrush as above mentioned.

CHARLES SOTIRAS.

Subscribed and sworn to before me this 31st day of August, 1910.

[SEAL.] W. H. SMITH,
Deputy County Clerk in and for Mono County, Cal.

DEFENDANT'S EXHIBIT E.

In the Circuit Court of the United States, Ninth Circuit Northern District of California. United States of America, complainant, *v.* Hydro Electric Co., a corporation, defendant. Affidavit in response to order to show cause.

UNITED STATES OF AMERICA,
Northern District of California, County of Mono, ss:

W. E. Reading, being first duly sworn, deposes and says:

Affiant is the duly appointed, qualified, and acting United States postmaster at Bodie, Mono County, Cal., and not a party to nor interested in the above-entitled suit.

Affiant has resided in Bodie, Cal., for 33 years last past, and has long been and now is maintaining and conducting a general merchandise store in said town of Bodie, and is thoroughly familiar with local conditions and industries and the needs and requirements thereof.

Affiant is also familiar with the project and proposed operations of the above-named defendant Hydro Electric Co. Affiant says that said company is now actively engaged in the construction and completion of a hydroelectric project; the water for such project is to be diverted from Mill Creek through a flow line and pressure pipe to a power house located approximately 16 miles southwest of Bodie, Cal.; such water

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after being released at the power house will be available for the irrigation of approximately 3,500 acres of otherwise arid but fertile, productive, and valuable agricultural lands; the irrigation of these lands will be of great benefit directly and indirectly to the town of Bodie and to several hundred of the inhabitants of Mono County.

The electric power to be generated by said project is proposed to be utilized by said Hydro Electric Co., first, in the mineral development and exploitation of the mining claims and properties belonging to said company and situated in sections 2, 11, and 14, township 2 north, range 25 east M. D. M.; and, second, the surplus power to the extent of approximately 100 horsepower is proposed to be utilized in the operation of an electrically driven dredge for the excavation of the necessary irrigation canals and ditches for the irrigation of the agricultural lands above referred to; and, third, the surplus power to the extent of approximately 800 horsepower is proposed to be furnished for public use for lighting, heating, and power in and around Bodie, Cal., and Aurora and Lucky Boy, Nev.

Affiant says that practically the sole industry at the present time in and around Bodie, Cal., is that of mining, milling, and the reduction of ores; that the power to be developed by said project and furnished in and around Bodie, Cal., is proposed to be utilized by the Southern Consolidated mine and the Standard Consolidated mine, both of which are large, valuable, and extensively worked gold mines at Bodie, employing large numbers of men on both night and day shifts in the mines, mills, and reduction works and in the freighting of ores and supplies.

Affiant says also that this power made available in and around Bodie will be available in the development work of mineral prospectors, locators, and lessees, and will make possible the opening up, exploitation, and development of many mines and mining properties in and around Bodie which are not now susceptible of exploitation or development.

Affiant says that it will be of great public benefit and advantage to the residents of Mono County, and particularly to the residents of Bodie and vicinity, if the said power project may be developed without delay and the power made available during the present season; that the project is now well advanced and can be completed this season unless delayed by injunction or other unforeseen misfortune; that the winter season, which begins during the month of November or very early in December, will, by reason of severe cold and heavy snows, then prevent further construction work on said project until the month of April following. Affiant says, on the other hand, that any interruption or stoppage in the completion of said power project will work great hardship, loss, and damage to the miners and mine operators and other residents of Mono County, Cal., and particularly to those of Bodie and vicinity.

W. E. READING.

Subscribed and sworn to before me this 1st day of September, 1910.

[SEAL.] A. LAZARD,
Notary Public in and for the County of Mono, State of California.

DEFENDANT'S EXHIBIT F.

In the Circuit Court of the United States, Ninth Circuit, Northern District of California. United States of America, complainant, *v.* Hydro Electric Co., a corporation, defendant. Affidavit in response to order to show cause.

UNITED STATES OF AMERICA,
State of Nevada, County of Esmeralda, ss:

Minnie Jones, being first duly sworn, deposes and says:

Affiant is the duly appointed, qualified, and acting United States postmaster at Luckyboy, Nev., and not a party to, nor interested in, the above-entitled suit.

Affiant is thoroughly familiar with local conditions and industries in and around said Luckyboy, Nev., and with the needs and requirements thereof; and is also familiar with the project and proposed operations of the above-named defendant, Hydro Electric Co.

Affiant says that said company is now actively engaged in the construction and completion of a hydroelectric project, the power house of which will be located near Bodie, Cal.

The electric power to be generated by said project is proposed to be used in part in the mineral development and exploitation of mines and mining claims in and around said Luckyboy, Nev.

Affiant says also that this power made available in and around said Luckyboy, Nev., will make possible a large amount of mineral development, and of development work

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by prospectors, locators, and lessees, and will make possible the opening up, exploitation, and development of many mines in and around said Luckyboy, Nev., which are not now susceptible of exploitation or development; and affiant says it will be of great public benefit and advantage to the miners, mine operators, and other residents of said Luckyboy, Nev.; that the said project is now well advanced and can be completed this season unless delayed by injunction or other unforeseen misfortune. Affiant says, on the other hand, that any interruption or stoppage in the completion of said power project will work great hardship, loss, and damage to said Luckyboy, Nev., and immediate vicinity.

MINNIE JONES.

Subscribed and sworn to before me this 3d day of September, 1910.

[SEAL.] J. H. MILLER,
Notary Public in and for Esmeralda County, Nev.

DEFENDANT'S EXHIBIT G.

In the Circuit Court of the United States, Ninth Circuit, Northern District of California. United States of America, complainant, *v.* Hydro Electric Co., a corporation, defendant. Affidavit in response to order to show cause.

UNITED STATES OF AMERICA,
Northern District of California, County of Mono, ss:

Bertrand Deleray, being first duly sworn, deposes and says:

Affiant resides at Bodie, Mono County, Cal., and is the superintendent in charge of the Southern Consolidated mines at Bodie, Cal., and is also the superintendent in charge of the Cain Consolidated mines at Aurora, Nev.

Affiant says that said mines contain large and valuable deposits of gold, and in the working thereof employ large numbers of men in the mining, milling, and reduction of ores, and in the freighting of ores and supplies. Affiant says that for several months last past the operations of said mines and mills have been practically at a standstill for no other reason than lack of power necessary in the working of the same. Affiant, as such superintendent in the operation of both said mines, is dependent for necessary power upon the above-named defendant and the power project referred to in the complaint in the above-entitled suit. The above-named defendant company has agreed with affiant and contracted to furnish affiant, and affiant has contracted and agreed to utilize in the operation of said mines and mills 600 horsepower of electrical energy.

Affiant says that any interruption or delay in the construction, completion, or operation of the power project of said defendant above referred to will delay, retard, and prevent the operation of both said mines and mills, and will work great hardship, damage, and loss to affiant and to the owners of both said mines, and to at least 250 persons employed in, or dependent upon, the operations of said mines.

BERTRAND DELERAY.

Subscribed and sworn to before me this 2d day of September, 1910.

[SEAL.] A. LAZARD,
Notary Public in and for the County of Mono, State of California.

DEFENDANT'S EXHIBIT H.

In the Circuit Court of the United States, Ninth Circuit, Northern District of California. United States of America, complainant, *v.* Hydro Electric Co., a corporation, defendant. Affidavit in response to order to show cause.

UNITED STATES OF AMERICA,
State of Nevada, County of Esmeralda, ss:

James I. Cain, being first duly sworn, deposes and says:

Affiant is the duly appointed, qualified, and acting United States postmaster at Aurora, Nev., and not a party to, nor interested in, the above-entitled suit.

Affiant is thoroughly familiar with local conditions and industries in and around said Aurora, Nev., and with the needs and requirements thereof; and is also familiar with the project and proposed operations of the above-named defendant, Hydro Electric Co.

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Affiant says that said company is now actively engaged in the construction and completion of a hydroelectric project, the power house of which will be located near Bodie, Cal.

The electric power to be generated by said project is proposed to be used in part in the mineral development and exploitation of mines and mining claims in and around said Aurora, Nev.

Affiant says also that this power made available in and around said Aurora, Nev., will make possible a large amount of mineral development, and of development work by prospectors, locators, and lessees, and will make possible the opening up, exploitation, and development of many mines in and around said Aurora, Nev., which are not now susceptible of exploitation or development; and affiant says it will be of great public benefit and advantage to the miners, mine operators, and other residents of said Aurora, Nev.; that the said project is now well advanced, and can be completed this season unless delayed by injunction, or other unforeseen misfortune. Affiant says, on the other hand, that any interruption or stoppage in the completion of said power project will work great hardship, loss, and damage to said Aurora, Nev., and immediate vicinity.

JAMES I. CAIN.

Subscribed and sworn to before me this 3d day of September, 1910.

[SEAL.] J. H. MILLER,
Notary Public in and for Esmeralda County, Nev.

DEFENDANT'S EXHIBIT I.

In the Circuit Court of the United States, Ninth Circuit, Northern District of California.
United States of America, complainant, *v.* Hydro Electric Co., a corporation, defendant. Affidavit in response to order to show cause.

UNITED STATES OF AMERICA,
Northern District of California, County of Mono, ss:

Francis Burke, being duly sworn, deposes and says:

That affiant is a resident of Mono Lake, Mono County, Cal., and not a party to nor interested in the above-entitled suit.

Affiant is a surveyor by profession, and has been such and residing and working as such surveyor in Mono County for three years last past.

Affiant has always been interested in mining, and is thoroughly familiar with the mining industry and mineral deposits and the development thereof in and around Bodie, Lake Lundy, and Mono Lake, and the territory between those places in Mono County, Cal., and particularly with the lands described in the bill of complaint in the above-entitled suit; and affiant says that he is thoroughly familiar from general observation, study, and examination of the general mineral development in that immediate locality with all said last-mentioned lands.

Affiant says that immediately northward of said described lands lie the Golden Eagle, Apex, Paraclete, and Iron Mountain mining claims, which are now patented; that upon said patented mining claims there have been opened and operated an extensive system of tunnels and underground workings upon three different levels, and that according to universal reputation among local miners such underground workings disclosed valuable deposits of gold, silver, and copper in rock in place.

Affiant says also that he is familiar by general examination and by universal reputation among local miners with the old Mono placer diggings; that such diggings lie upon land below and approximately 1½ miles northeasterly from said lands in said bill of complaint described; that said Mono placer diggings show extensive workings, and according to universal reputation among local miners produced during the decades of 1860 and 1870 between $11,000,000 and $15,000,000 of free placer gold; and affiant says that from careful study and examination of said diggings and of said lands in said bill of complaint described and of said patented claims that he is of the opinion that the placer gold deposited and found in said old Mono placer diggings was by natural decomposition and erosion freed, eroded, and washed away from said described lands and from said patented claims, and from lodes and veins traversing the same, and deposited in said old Mono diggings; and affiant says further that this is the generally accepted belief and reputation among local experienced miners.

Affiant says further that he has examined and is familiar with Exhibit A, attached to and filed with the above-named defendant's response to the order to show cause in the above-entitled suit, and that said Exhibit A is a substantially accurate and true delineation of all the lands in this affidavit referred to except that said old Mono

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placer diggings are not delineated thereon; that said diggings lie to the east and southeast of section 12, as marked on said exhibit.

Affiant says further that during the month of March, 1910, he examined and prospected the lands in said bill of complaint described, and the surface indications upon the above-named patented claims immediately northward of said lands; that from his knowledge of said patented claims and of the veins and lodes traversing the same, and from his knowledge of said described lands and from his examination of the same, and from the fact that he found satisfactory indications that the same veins and lodes which traversed said patented claims also traversed and pass under, through, and across said lands in said bill of complaint described, and because he found float and formations and outcroppings sufficient to indicate satisfactorily that such veins and lodes pass through, across, and under the claim designated as Lone Pine, or Pine Tree, as designated upon said Exhibit A. Affiant thereupon located said claim, and plainly marked the boundary thereof upon the ground, as shown upon said Exhibit A, and posted thereon notices of such location and the description thereof, and thereafter filed for record and caused to be recorded with the county recorder of the county of Mono, State of California, a full, true, and accurate copy of said location.

And affiant says further that from his examination and study and discoveries upon said Pine Tree or Lone Pine mining claim, and by reason of his knowledge, examination, and study of the said Golden Eagle, Apex, Paraclete, and Iron Mountain patented claims, and by reason of his information concerning and his study and examination of said old Mono placer diggings it is his opinion that a vein or lode of valuable gold-bearing rock in place traverses and passes through and under the length of said Pine Tree mining claim; and affiant says that sufficient discovery of such valuable gold-bearing ledge within and traversing said mining claim has been made by affiant to justify a reasonably prudent miner in the further expenditure of his time and money in the hope of developing a paying mine thereon.

Affiant says further that in making said location as above set forth he acted upon his own initiative, and for the reasons above set forth, and not at the request or suggestion of any other person whomsoever; and affiant says also that by reason and because of the apparent, and to him evident, mineral character of other lands immediately surrounding said claim affiant has, since making the location thereof as above set forth, urged numerous other persons, his friends and acquaintances, to make mining locations of the land immediately surrounding said claim; among such persons are J. P. Gardiner, James S. Cain, A. F. Dieter, and probably others not now remembered by affiant.

FRANCIS BURKE.

Subscribed and sworn to before me this 1st day of September, 1910.

[SEAL.] A. LAZARD,
Notary Public in and for the County of Mono, State of California.

DEFENDANT'S EXHIBIT K.

In the Circuit Court of the United States, Ninth Circuit, Northern District of California. United States of America, complainant, *v.* Hydro Electric Co., a corporation, defendant. Affidavit in response to order to show cause.

UNITED STATES OF AMERICA,
Northern District of California, County of Mono, ss:

John P. Hammond, being first duly sworn, deposes and says: Affiant is a resident of Mono Lake, Mono County, Cal., and not a party to nor interested in the above-entitled suit.

Affiant has been a practical miner in and around Mono County since 1877, and is, and for many years last past has been, thoroughly familiar with the mining industry and mineral deposits and the development thereof in and around Bodie and Lake Lundy and Mono Lake, and the territory between those places in Mono County, Cal., and particularly with the lands described in the bill of complaint in the above-entitled suit; and affiant says that he is thoroughly familiar by reason of having many times prospected and examined the same and other lands in the immediate vicinity.

Affiant says that about the year 1880 and from then until about the year 1883 he located, prospected, mined, and worked upon several different parcels of land in the immediate vicinity of, and others forming a part of, said lands in said bill of complaint described.

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Affiant says that about the year 1882 he located, prospected, and mined upon two claims covering approximately the same area as that covered by the mining claims now known as "High Grade," and "Halley," upon the said lands described in said bill of complaint.

In working said mining claims affiant, about the year 1882 or 1883, and from then until about 1885 or 1886, tunneled under approximately 300 feet of what is now known as the "High Grade" claim. Affiant found valuable deposits of gold in rock in place in said tunnel. Such deposits as were assayed, showed assay returns at that time of from two and a half to seven dollars per ton.

Affiant is familiar with the mining tunnels and underground workings upon the "Golden Eagle," "Apex," "Paraclete," and "Iron Mountain" mining claims which are now patented, and which lie immediately northward of said lands in said bill of complaint described.

Affiant says that such tunnels and underground workings have there been operated extensively upon three different levels, and such workings there disclosed valuable deposits of gold, silver, and copper in rock in place; and affiant says further that from his training and experience as a practical miner, and from his knowledge, examinations, and study of said patented claims, and of said lands now represented by approximately those claims known as "High Grade," and "Halley," that in the opinion of affiant one or more lodes or veins bearing valuable deposits of gold extend from the northward across, through, and under said lands in said bill of complaint described, to wit, between the center and easterly line of the north half of sec. 14, T. 2 N., R. 25 E., M. D. B. M.

Affiant says further that it is his opinion that all said described lands contain valuable deposits of gold, and that each of the mining locations and claims now covering said lands, to wit, "Lone Pine" (also called and known as "Pine Tree"), "High Grade," "Johnnie Con," "Sunlit," "Mattly," Nos. 1 to 10, inclusive, "Halley," "Wolf," and "Eagle" contains valuable deposits of gold sufficient to justify a reasonably prudent miner in the further expenditure of his time and money in the hope of developing a paying mine.

Affiant says further that he has examined and is familiar with Exhibit A attached to and filed with the above-named defendant's response to the order to show cause in the above-entitled case, and is thoroughly familiar with the dotted ditch line indicated on said Exhibit A, and marked and designated "Old Goleta power ditch."

Affiant says that he saw, knew of, and well remembers the construction and use of said ditch; that said ditch was constructed by the Goleta Consolidated Mining Co. about the year 1893 or 1894; that such of the lands crossed by said ditch as are described in the bill of complaint in the above-entitled suit were then, and for many years thereafter, open, unappropriated, unreserved public lands of the United States; that said ditch was used and utilized for the transmission of water as a canal and ditch almost continuously from about the year 1894 until about the year 1902; that during said time said ditch was used continuously and continuously filled with water, which water was utilized and used for the purpose of irrigation, and for the purpose of generating power (not electrical power), for the mining, milling, and reduction of ores.

J. P. HAMMOND.

Subscribed and sworn to before me this 31st day of August, 1910.

[SEAL.] W. H. SMITH,
Deputy County Clerk in and for Mono County, Cal.

DEFENDANT'S EXHIBIT L.

In the Circuit Court of the United States, Ninth Circuit, Northern District of California. United States of America, complainant, *v.* Hydro Electric Co., a corporation, defendant. Affidavit in response to order to show cause.

UNITED STATES OF AMERICA,
Northern District of California, County of Mono, ss:

Frederick D. Mattly, being first duly sworn, deposes and says:

Affiant is a resident of Jordan, Mono County, Cal., and not a party to nor interested in the above-entitled suit.

Affiant has been a practical miner in and around Mono County since 1888 and is, and for many years past has been, thoroughly familiar with the mining industry and mineral deposits and the development thereof in and around Bodie and Lake Lundy and

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Mono Lake and the territory between those places in Mono County, Cal., and particularly with all the lands described in the bill of complaint in the above-entitled suit; and affiant says that he is thoroughly familiar with said lands and the lands immediately them surrounding, by reason of having many times prospected and examined the same.

Affiant is familiar with the mining tunnels and underground workings upon the "Golden Eagle," "Apex," "Paraclete," and "Iron Mountain" mining claims which are now patented and which lie immediately northward of said lands in said bill of complaint described, and affiant says that such tunnels and underground workings have there been opened and operated extensively upon three different levels, and such workings there disclosed valuable deposits of gold, silver, and copper in rock in place.

Affiant says further that he has examined and is familiar with Exhibit A attached to and filed with the above-named defendant's response to the order to show cause in the above-entitled suit, and that on the 1st day of January, 1910, he (affiant) located claims as follows: "Mattly mining claims Nos. 1 to 10, inclusive, as shown upon said Exhibit A, and upon said day plainly marked the boundaries of each of said claims upon the ground and posted thereon and upon each thereof notices of such location and the description thereof, and within five days thereafter filed for record and caused to be recorded with the county recorder of the county of Mono, State of California, full, true, and accurate copies of each and all said locations.

Affiant says that prior to the making of said locations he prospected and examined all said land, and that said locations were made because of the fact that affiant found and discovered upon such locations float and other evidences of mineral, of valuable deposits of gold in place sufficient to justify a reasonably prudent miner in the expenditure of his time and money thereon in the hope of developing thereon and upon each thereof a paying mine.

And affiant says further that from his training and experience as a practical miner, and from his examination and study and discoveries upon all said mining locations, and by reason of his knowledge and study of the said "Golden Eagle," "Apex," "Paraclete," and "Iron Mountain" patented claims, and by reason of his prospecting, study, and examination of the "Halley," "Wolf," "Eagle," "Lone Pine" (also designated and known as "Pine Tree"), "High Grade," "Johnnie Con," and "Sunlit" mining claims as designated upon Exhibit A, and by reason of his knowledge, study, prospecting, and examination of the formation and mineral evidences and mining operations in and around said territory affiant is of the opinion that one or more lodes, or veins, bearing valuable deposits of gold in place passes across, through, and under all said claims; and affiant is further of the opinion that all said claims contain valuable deposits of gold in ample quantities and quality to justify a reasonably prudent miner in the expenditure of his time and money upon each thereof in the hope of developing a paying mine thereon.

Affiant says further that in making each and every of the locations made by him as above set forth he acted upon his own initiative for the reasons above set forth and not at the request or suggestion of any other person whomsoever.

Affiant says further that he has thoroughly examined the dotted ditch line indicated upon said Exhibit A and marked and designated "Old Goleta Power Ditch"; and affiant says that he saw, knew of, and well remembers the construction and use of said ditch; that said ditch was constructed by the Goleta Consolidated Mining Co. about the year 1893 or 1894; that such of the lands crossed by said ditch as are described in the bill of complaint in the above-entitled suit were then, and were for many years thereafter, open, unappropriated, unreserved public lands of the United States; that said ditch was used and utilized for the transmission of water as a canal and ditch almost continuously from about the year 1894 until about the year 1902 or 1903; that during said time said ditch was used continuously and was continuously filled with water, which water was utilized and used for the purpose of irrigation, and for the purpose of generating power (not electrical power), and for mining, milling, and the reduction of ores.

FREDERICK D. MATTLY.

Subscribed and sworn to before me this 31st day of August, 1910.

[SEAL.] W. H. SMITH,
Deputy County Clerk in and for the County of Mono, State of California.

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DEFENDANT'S EXHIBIT M.

In the Circuit Court of the United States, Ninth Circuit, Northern District of California. United States of America, complainant, *v.* Hydro Electric Company, a corporation, defendant. Affidavit in response to order to show cause.

UNITED STATES OF AMERICA,
Northern District of California, County of Mono, ss:

John A. Conway, being first duly sworn, deposes and says:

Affiant is, and for many years last past has been, a resident of Jordan, Mono County, Cal.; and has been for many years interested in mining at various places in Mono County. Affiant is generally familiar with the mineral deposits in and around Bodie, Cal., and Mono Lake, Cal., and places between those two points in Mono County, Cal.

Affiant has examined and is familiar with Exhibit A, which is attached to and filed with the above-named defendant's response to the order to show cause in the above-entitled suit. Affiant is the same person who in May, 1910, located upon the ground in accordance with the mining laws of the United States the mining claims "Johnnie Con," "Wolf," "Eagle," and "Sunlit," as shown upon said Exhibit A. Affiant says that he located each and all of said claims for his own use and benefit, and not for the use or benefit of any other party or person whomsoever.

Affiant has since, long prior to the making of said locations, known of the mineral claims and workings to the northward of said four claims, as shown upon said Exhibit A, and has also known of the old "Mono placer diggings," and of the placer ground designated as "Mono Lake Hydraulic," as shown upon said Exhibit A, and has long known of and considered all of said lands embraced within said four claims as being mineral in character, and affiant says that from his knowledge and examinations of said claims and of the claims lying northward therefrom affiant is of the opinion that the veins and lodes which traverse the "Golden Eagle," "Apex," "Paraclete," and "Iron Mountain" patented mining claims traverse the "Wolf," "Eagle," "Johnnie Con," and "Sunlit," and that the general trend and contour thereof is substantially the same as the trend and contour of the hillside running northerly and southerly across said four claims.

Affiant says that the examinations which prior to the making of said four locations he made and caused to be made upon said claims, and the discoveries and evidences of mineral deposits resulting therefrom, were sufficient to indicate that each of said claims is traversed by one or more veins or lodes of gold—bearing rock in place, and sufficient to justify a reasonably prudent miner in the expenditure of his time and money in the hope of developing thereon a paying mine. Said locations were made as follows: The boundaries of each of said claims were plainly marked upon the ground as indicated upon said Exhibit A; notices of the location of each of said claims were posted thereon; and within 30 days thereafter a full, true, and accurate copy of each of said notices of location was filed for record and caused to be recorded with the county recorder of Mono County, Cal.

Affiant says that prior to making said locations he several times discussed the matter of making the same with other persons, who recommended the advisability of so doing, but that said locations were not made for the use or benefit of any such persons.

JOHN A. CONWAY.

Subscribed and sworn to before me this 2d day of September, 1910.

[SEAL.] A. LAZARD,
Notary Public in and for the County of Mono, State of California.

DEFENDANT'S EXHIBIT U.

In the Circuit Court of the United States, Ninth Circuit, Northern District of California. United States of America, complainant, *v.* Hydro Electric Co., a corporation, defendant. Affidavit in response to order to show cause.

UNITED STATES OF AMERICA,
Northern District of California, City and County of San Francisco, ss:

Richard T. Pierce, being first duly sworn, deposes and says:

Affiant is and since 1879 has been a resident of Lundy Lake, Mono County, Cal., and is not a party of or interested in the above-entitled suit.

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Affiant is an experienced, practical miner, having ever since 1894 been superintendent in actual charge of the operations of the Jackson and Lake View and Crystal Lake Gold Mining Co., which company has during said time been extensively operating in valuable deposits at said Lundy Lake. Affiant is also familiar with the mineral deposits and with the development thereof in and around the lands described in the bill of complaint in the above-entitled suit. Affiant has examined and is familiar with Exhibit A, attached to and filed with the above-named defendant's response to the order to show cause in the above-entitled suit.

Affiant is also familiar with the extensive mining operations which have been carried on by means of tunnels and underground workings upon three different levels on the patented claims, "Golden Eagle," "Apex," "Paraclete," and "Iron Mountain," designated on said Exhibit A and lying immediately northerly of said described lands, and affiant is familiar with the formation and development work in said patented claims. Affiant says that said workings disclosed very valuable vein or lode deposits bearing gold, silver, and copper, and following generally the trend of the lineal boundaries of said patented claims and pitching easterly; such tunnels and workings running in a westerly direction into said patented claims cut the hanging wall of said vein deposits and extended westerly more than 160 feet. All of such tunnels and workings were run westerly through valuable gold, silver, and copper bearing vein matter, but did not reach as far as the foot wall of said vein deposits, and affiant says that from his knowledge and examination of said workings and of the country lying immediately westerly therefrom, affiant is of the opinion that said vein extends as far westerly as the westerly line of claim "Mattly No. 9," if not farther, and that the foot wall thereof is located as far west as said west line of "Mattly No. 9," if not farther.

Affiant is also familiar with the "Hammond Tunnel," which has been run a distance of 300 feet northerly and underground from near the south end of the claim "High Grade," and says that such tunnel discloses valuable and distinctly marked vein matter, bearing the minerals above named, evidently being a continuation of the vein deposits disclosed within the patented claims above named, and affiant says that it is his opinion, as a practical miner and from his knowledge and examination of the territory involved, that if the westerly or foot wall of such vein deposit should be found and located near the easterly line of the claim marked "Lone Pine," upon said Exhibit A, that then the easterly or hanging wall of said vein, on account of the well-known width and dip of the vein, would be found underneath the surface at or within the limits of the claim "Sunlight," or in other words, following the general contour of the hill slope southerly from the point where such hanging wall was located upon said patented claims. And affiant says further that his conclusion in this respect is fortified and enforced by mineral float and other vein matter found upon the surface and evidencing the existence of said vein matter at the southeasterly point of the hill, which slopes southerly and easterly at the southeast corner of the northeast quarter of section 14, shown upon said Exhibit A, and is enforced further by the fact that as said vein extends southerly it trends or strikes further easterly and tends to reach or extend further down along the easterly slope of the range of hills which it follows.

Affiant says also that said range of hills is broken or cut by Mill Creek, as shown upon said Exhibit A, and that said Mill Creek, in its process of cutting said range of hills, has deposited a large amount of eroded matter upon the ground indicated as "Mono Lake Hydraulic" upon said Exhibit A, and that said Mono Lake hydraulic lands have, to the knowledge of affiant, been reported by well-known mining experts to contain valuable and rich gold placer deposits. These placer deposits must be the result in a large part of the action of the water of Mill Creek cutting through, breaking and eroding away the vein matter of the lode or vein which runs through the claims "Lone Pine," "High Grade," "Johnny Con," and "Sunlight," as outlined above.

RICHARD T. PIERCE.

Subscribed and sworn to before me this 6th day of September, 1910.

[SEAL.] CEDA DE ZALDO,
Notary Public in and for the City and County of San Francisco, State of California.

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DEFENDANT'S EXHIBIT Q.

In the Circuit Court of the United States, Ninth Circuit, Northern District of California. United States of America, complainant, *v.* Hydro Electric Co., a corporation, defendant. Affidavit in response to order to show cause.

UNITED STATES OF AMERICA,
Northern district of California, County of Mono, ss:

William H. Smith, being first duly sworn, deposes and says: Affiant is the duly appointed, qualified, and acting deputy county clerk of Mono County, Cal., is not a party to, nor interested in the above-entitled suit.

Affiant is an experienced and competent practical miner, and for more than 12 years prior to 1910 has been the acting superintendent and secretary, and (under the superintendent) in actual charge, direction, and control of the Crystal Lake gold mine near Lundy Lake, Mono County, Cal.

Affiant is, and for many years last past has been, thoroughly familiar with the mining industry and mineral deposits and the developments thereof, in and around Bodie, and Lake Lundy, and the territory between those places in Mono County, Cal., and particularly with the lands described in the bill of complaint in the above-entitled suit; and affiant says that he is thoroughly familiar with all said last-mentioned lands, having many times examined said lands; and affiant says that it is his opinion that all said lands contain valuable deposits of mineral, to wit, gold, and that each of the mining locations and claims covering said lands, to wit, "Lone Pine" (also called and known as "Pine Tree"), "High Grade," "Johnnie Con," "Sunlit," "Mattly," Nos. 1 to 10, inclusive, "Halley," "Wolf," and "Eagle," contains valuable deposits of gold in ample quantities and qualities to justify a reasonably prudent miner in the further expenditure of his time and money in the hope of developing a paying mine.

W. H. SMITH.

Subscribed and sworn to before me this 2d day of September, 1910.

[SEAL.] GEO. DELURY,
County Clerk, Mono County, Cal.

DEFENDANT'S EXHIBIT R.

In the Circuit Court of the United States, Ninth Circuit, Northern District of California. United States of America, complainant, *v.* Hydro Electric Co., a corporation, defendant. Affidavit in response to order to show cause.

UNITED STATES OF AMERICA,
Northern district of California, County of Mono, ss:

Abner A. Travis, being first duly sworn, deposes and says:

Affiant is a resident of Lake Lundy, Mono County, Cal., is not a party to, nor interested in the above-entitled suit.

Affiant has been a practical miner in and around Mono County for 30 years last past, and as such has held practically every position from laborer to foreman and superintendent, both of gold mining and milling.

Affiant is and for many years last past has been thoroughly familiar with the mining industry and mineral deposits and the development thereof in and around Bodie and Lake Lundy, and the territory between those places in Mono County, Cal., and particularly with the lands described in the bill of complaint in the above-entitled suit; and affiant says that he is thoroughly familiar from general observation and examinations and from a personal knowledge of the general mineral development in that immediate locality with all said last-mentioned lands; and affiant says that it is his opinion that all said lands contain valuable deposits of mineral in place, to wit, gold, and that each of the mining locations and claims covering said lands, to wit, "Lone Pine" (also called and known as "Pine Tree"), "High Grade," "Johnnie Con," "Sunlit," "Mattly," Nos. 1 to 10, inclusive, "Halley," "Wolf," and "Eagle," contains valuable deposits of gold in ample quantities and qualities to justify a reasonably prudent miner in the further expenditure of his time and money in the hope of developing a paying mine.

Affiant says further that all said lands, or at any rate, lands of the same character and in the immediate vicinity thereof, have from time to time for years past been

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located and prospected, and that all said lands have among practical miners been commonly reputed and considered as valuable mineral lands.

ABNER A. TRAVIS.

Subscribed and sworn to before me this 31st day of August, 1910.

[SEAL.] W. H. SMITH,
Deputy County Clerk in and for Mono County, Cal.

DEFENDANT'S EXHIBIT S.

In the Circuit Court of the United States, Ninth Circuit, Northern District of California. United States of America, complainant, *v.* Hydro Electric Co., a corporation, defendant. Affidavit in response to order to show cause.

UNITED STATES OF AMERICA,
Northern District of California, County of Mono, ss:

Bertrand Deleray, being first duly sworn, deposes and says:

Affiant is a practical and experienced miner, having been actively engaged in the pursuit of mining and in the examination and development of mining properties for more than 30 years last past, having been thus engaged in the Territory of Arizona, in the States of Nevada and California, and in the District of Alaska, and during the last 15 years affiant has been acting as superintendent in charge of mining operations. Affiant is now superintendent and in charge of the Southern Consolidated mines, at Bodie, Cal., and the Cain Consolidated mines, at Aurora, Nev., and now resides at Bodie, Mono County, Cal.

Affiant has examined and is familiar with Exhibit A, attached to and filed with the above-named defendant's response to the order to show cause in the above-entitled suit. On the afternoon of August 31, 1910, at request of Mr. James S. Cain, vice president of the above-named defendant company, affiant made a cursory examination of the mineral deposits occurring and exposed along the wood-stave pipe line, and pressure pipe line extending across the "Lone Pine" (also known as "Pine Tree"), "High Grade," "Johnnie Con," "Wolf," and "Eagle" mining claims, as shown upon said Exhibit A.

Affiant also made a superficial examination of the old Hammond tunnel, situated near the southwest corner of "High Grade" claim, as shown upon said Exhibit A. Affiant was unable by reason of lack of time to make any satisfactory examinations as to evidences of veins or lodes upon the surrounding territory, and likewise was unable to make any examination of the surface indications as to any outcroppings or evidences of veins or lodes, except as above stated, namely, the examination at the Hammond tunnel and the examinations in the pipe line which has been dug and excavated as above mentioned. The results of affiant's examinations may be briefly summarized as follows:

Commencing at the point where said pipe-line ditch crosses the west line of the claim "Lone Pine," and working easterly I found between five and six hundred feet to be covered by granite. From there on I found a well-defined, heavy mineralized zone, fully 318 feet wide; this mineralized zone is composed principally of quartz, trap, and porphyry; the samples taken here, as well as those taken at the Hammond tunnel, carried silver, traces of gold, and copper. The Hammond tunnel is also clearly within a mineralized zone, and evidently within the same zone referred to above. This zone evidently extends northerly and southerly. In this connection will say that the lands within sections 11 and 14 covered by mining claims, as shown upon Exhibit A, lie along a ridge or series of hills, which break off abruptly to the east and south and which on the east and south are surrounded by low-lying valleys drained by Mill Creek.

From the eastern boundary of the mineralized zone above referred to I worked easterly and northeasterly along said pipe-line ditch to the northeast corner of section 14, which is also the northeast corner of the claim "Eagle." However, over this entire distance I found the natural formation to be covered by an overburden or slide, so that no satisfactory examination could be made during the short time at my disposal. The ditch line over this distance I found to be cut and excavated entirely through this overburden or slide material, and I was unable to make any determination as to character of the natural formation underneath. However, the placer deposits indicated upon said Exhibit A as "Mono Lake Hydraulic" must have derived their gold by the erosion from the mineral deposits situated within the northeast

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quarter of section 14, as shown upon Exhibit A, and the mineralized territory lying immediately northerly and northwesterly therefrom. The "Mono Lake Hydraulic" placer deposits have been experted from time to time. I have examined a recent report on these placer deposits made by Mr. Hobson, mining engineer. Mr. Hobson's report claims that these deposits carry several million dollars in free placer gold.

BERTRAND DELERAY.

Subscribed and sworn to before me this 2d day of September, 1910.

[SEAL.] A. LAZARD,
Notary Public in and for the County of Mono, State of California.

DEFENDANT'S EXHIBIT T.

In the Circuit Court of the United States, Ninth Circuit, Northern District of California. United States of America, complainant, *v.* Hydro Electric Co., a corporation, defendant. Affidavit in response to order to show cause.

UNITED STATES OF AMERICA,
Northern District of California,
City and County of San Francisco, ss:

Stephen Roberts, being first duly sworn, deposes and says:

Affiant is a resident of Berkeley, Alameda County, Cal., and is not a party of or interested in the above-entitled suit.

Affiant is an experienced, practical miner, having been engaged therein for 51 years, and during most of the time since 1886 has been president and in actual charge of the operations of the Goleta Consolidated Mining Co. and its preceding corporations in interest in the same mining properties. Said corporations have during said time been extensively operating in valuable vein deposits, bearing gold, silver, and copper, in the vicinity of, and affiant is therefore familiar with the mineral deposits and with the development thereof in and around, the lands described in the bill of complaint in the above-entitled suit. Affiant has examined and is familiar with Exhibit A, attached to and filed with the above-named defendant's response to the order to show cause in the above-entitled case.

Affiant was in actual charge of extensive mining operations which were by said Goleta Consolidated Mining Co. carried on by means of tunnels and underground workings upon three different levels on the patented claims, "Golden Eagle," "Apex," "Paraclete," and "Iron Mountain," designated on said Exhibit A and lying immediately northerly of said described lands, and affiant is familiar with the formation and development work in said patented claims; affiant says that said workings disclosed very valuable vein or lode deposits bearing gold, silver, and copper and following generally the trend of the linear boundaries of said patented claims and pitching easterly; such tunnels and workings running in a westerly direction into said patented claims cut the hanging wall of said vein deposits and extended westerly more than 160 feet. All of such tunnels and workings were run westerly through valuable gold, silver, and copper bearing vein matter, but did not reach as far as the footwall of said vein deposits, and affiant says that from his knowledge and examination of said workings and of the country lying immediately westerly therefrom affiant is confidently of the opinion that said vein extends as far westerly as the westerly line of claim "Mattly No. 9," if not farther, and that the footwall thereof is located as far west as said west line of "Mattly No. 9," if not farther.

Affiant is also familiar with the "Hammond Tunnel," which has been run a distance of 300 feet northerly and underground from near the south end of the claim, "High Grade," and says that such tunnel discloses valuable and distinctly marked vein matter, bearing the minerals above named, evidently being a continuation of the vein deposits disclosed within the patented claims above named, and affiant says that it is his opinion, as a practical and experienced miner and from his knowledge and examination of the territory involved, that if the westerly or footwall of such vein deposit should be found and located near the easterly line of the claim marked "Lone Pine" upon said Exhibit A, that then the easterly or hanging wall of said vein, on account of the well-known width and dip of the vein, would be found underneath the surface at the eastern line or within the limits of the claim "Sunlight," or, in other words, following the general contour of the hill slope southerly from the point where such hanging wall was located upon said patented claims. And affiant says further that his

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conclusion in this respect is fortified and enforced by mineral float and other vein matter found upon and near the surface, and evidencing the existence of said vein matter at the southeasterly point of the hill which slopes southerly and easterly at the southeast corner of the northeast quarter of section 14, shown upon said Exhibit A, and is enforced further by the fact that as said vein extends southerly it trends or strikes farther easterly and tends to reach or extend farther down along the easterly slope of the range of hills which it follows. And affiant says that said vein or lode within the said four patented mining claims was found to contain and produced several hundred-pound blocks or chunks of gold and silver bearing rock of the value of $39 and over in gold and silver, the same averaging 40 ounces of silver and $19 in gold per ton, and that within said lode or ledge were found very many rich leads and stringers of very valuable ore. These leads or stringers, running as high as 25 feet in width where the values would equal or exceed $2.50 in gold and 40 ounces in silver per ton. And affiant says that it is his opinion that with modern improved economical methods of mining and with a plentiful supply of water and of cheap power said vein to approximately, if not quite, its entire width and to its entire length southerly through the said lands in said bill described could be worked and mined at substantial profits.

Affiant says also that said range of hills is broken or cut by Mill Creek, as shown upon said Exhibit A, and that said Mill Creek in its process of cutting said range of hills has deposited a large amount of eroded matter upon the ground indicated as "Mono Lake Hydraulic" upon said Exhibit A, and that said Mono Lake Hydraulic lands have, to the knowledge of affiant, been reported by well-known mining experts to contain valuable and rich gold placer deposits. These placer deposits must be the result in a large part of the action of the water of Mill Creek cutting through, breaking and eroding away the vein matter of the lode or vein which runs through the claims, "Lone Pine," "High Grade," Johnny Con," and "Sunlight," as outlined above.

Affiant says that he was president and in charge of and well remembers the construction and use with the ditch line designated on said Exhibit A and marked "Old Goleta Power Ditch"; said ditch was constructed by the said Goleta Consolidated Mining Co. about the year 1894; that such of the lands crossed by said ditch as are described in the bill of complaint in the above-entitled suit were then and for many years thereafter open, unappropriated, unreserved public lands of the United States; that said ditch was used and utilized for the conduction of water to the extent of 800 miner's inches, owned and used by said company; said ditch was used thus almost continuously for the period of 8 or 10 years; that during said time said ditch was thus used for the purpose of irrigation, and for purposes of direct water power for mining, milling, and the reduction of ores. The use of said ditch was temporarily discontinued on account of frequent breakage therein, through freezing and otherwise, but said ditch was never, nor was the right of way and easement therefor, abandoned by the said Goleta Consolidated Mining Co.

STEPHEN ROBERTS.

Subscribed and sworn to before me this 6th day of September, 1910.

[SEAL.] CEDA DE ZALDO,
Notary Public in and for the City and County of San Francisco, State of California.

DEFENDANT'S EXHIBIT U.

In the Circuit Court of the United States, Ninth Circuit, Northern District of California. United States of America, complainant, *v.* Hydro Electric Co., a corporation, defendant. Affidavit in response to order to show cause.

UNITED STATES OF AMERICA,
Northern District of California,
City and County of San Francisco, ss:

Richard T. Pierce, being first duly sworn, deposes and says:

Affiant is and since 1879 has been a resident of Lundy Lake, Mono County, Cal., and is not a party of or interested in the above-entitled suit.

Affiant is an experienced, practical miner, having ever since 1894, been superintendent in actual charge of the operations of the Jackson and Lake View and Crystal Lake Gold Mining Co., which company has during said time been extensively operating in valuable deposits at said Lundy Lake. Affiant is also familiar with the mineral deposits and with the development thereof in and around the lands described in the bill of complaint in the above-entitled suit. Affiant has examined and is familiar

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with Exhibit A, attached to and filed with the above-named defendant's response to the order to show cause in the above-entitled suit.

Affiant is also familiar with the extensive mining operations which have been carried on by means of tunnels and underground workings upon three different levels on the patented claims, "Golden Eagle," "Apex," "Paraclete," and "Iron Mountain," designated on said Exhibit A and lying immediately northerly of said described lands, and affiant is familiar with the formation and development work in said patented claims. Affiant says that said workings disclosed very valuable vein or lode deposits bearing gold, silver, and copper, and following generally the trend of the lineal boundaries of said patented claims ano pitching easterly; such tunnels and workings running in a westerly direction into said patented claims cut the hanging wall of said vein deposits and extended westerly more than 160 feet. All of such tunnels and workings were run westerly through valuable gold, silver, and copper-bearing vein matter, but did not reach as far as the footwall of said vein deposits, and affiant says that from his knowledge and examination of said workings and of the country lying immediately westerly therefrom, affiant is of the opinion that said vein extends as far westerly as the westerly line of claim "Mattly No. 9," if not farther, and that the footwall thereof is located as far west as said west line of "Mattly No. 9," if not farther.

Affiant is also familiar with the "Hammond Tunnel," which has been run a distance of 300 feet northerly and underground from near the south end of the claim "High Grade," and says that such tunnel discloses valuable and distinctly marked vein matter, bearing the minerals above named, evidently being a continuation of the vein deposits disclosed within the patented claims above named, and affiant says that it is his opinion, as a practical miner and from his knowledge and examination of the territory involved, that if the westerly or footwall of such vein deposit should be found and located near the easterly line of the claim marked "Lone Pine" upon said Exhibit A, that then the easterly or hanging wall of said vein, on account of the well-known width and dip of the vein, would be found underneath the surface at or within the limits of the claim "Sunlight," or in other words, following the general contour of the hill slope southerly from the point where such hanging wall was located upon said patented claims. And affiant says further that his conclusion in this respect is fortified and enforced by mineral float and other vein matter found upon the surface and evidencing the existence of said vein matter at the southeasterly point of the hill, which slopes southerly and easterly at the southeast corner of the northeast quarter of section 14, shown upon said Exhibit A, and is enforced further by the fact that as said vein extends southerly it trends or strikes farther easterly and tends to reach or extend farther down along the easterly slope of the range of hills which it follows.

Affiant says also that said range of hills is broken or cut by Mill Creek, as shown upon said Exhibit A, and that said Mill Creek, in its process of cutting said range of hills has deposited a large amount of eroded matter upon the ground indicated as "Mono Lake Hydraulic" upon said Exhibit A, and that said Mono Lake Hydraulic lands have, to the knowledge of affiant, been reported by well-known mining experts to contain valuable and rich gold placer deposits. These placer deposits must be the result in a large part of the action of the water of Mill Creek cutting through, breaking, and eroding away the vein matter of the lode or vein which runs through the claims "Lone Pine," "High Grade," "Johnny Con," and "Sunlight," as outlined above.

RICHARD T. PIERCE.

Subscribed and sworn to before me this 6th day of September, 1910.

[SEAL.] CEDA DE ZALDO,
Notary Public in and for the City and County of San Francisco, State of California.

DEFENDANT'S EXHIBIT V.

JUNE 27, 1910.

Board met in special session. Present: Supervisors Mattly, Creaser, Bawden, and Day. Absent: Rickey. (Call for special meeting entered in full on the minutes.)

The petition of the Hydro Electric Co. read and presented to the board, as follows:

To the honorable Board of Supervisors, Mono County, Cal.:

Your petitioner, the Hydro Electric Co., a corporation duly organized and existing under and by virtue of the laws of the State of California, and doing business in the said county of Mono, would respectfully show to this honorable board—

That petitioner is desirous of constructing, laying out, and maintaining a public highway in said Mono County, commencing at a point about 4 miles south of the

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town of Bodie, and running in a southerly direction to or near the town of Lundy, according to the plans and specifications of said public highway accompanying this petition, which said plans and specifications are made a part of this petition.

That petitioner will construct and maintain said public highway at its own cost and expense and without any cost whatever to said Mono County, and upon its completion will donate the same to said Mono County free of charge and without any incumbrance of any kind or nature whatsoever.

That said highway will be free to be used by said county or the traveling public, and no tolls of any kind will be charged for use of the same.

Wherefore your petitioner prays your honorable body to permit it to construct and maintain said highway as aforesaid.

And your petitioner will ever pray, etc.

HYDRO ELECTRIC CO.,
By J. S. CAIN,
Its duly authorized agent for this purpose.

After due consideration it is moved by Bawden, seconded by Mattly, that the prayer of the petition be granted. Ayes: Bawden, Mattly, Creaser, and Day, chairman. Noes: None.

Absent: Rickey.

C. E. DAY, *Chairman.*
Attest: GEO. DELURY, *Clerk.*

I, George Delury, county clerk, and ex officio clerk of the board of supervisors of the county of Mono, State of California, do hereby certify that the attached foregoing copy of a resolution establishing a county road is a full, true, and accurate copy of the original resolution passed by said board as shown by the official records of the board of supervisors of the county of Mono, State of California, on file in my office in said county and State.

In witness whereof I have hereunto set my hand and affixed the official seal of said board this 2d day of September, 1910.

[SEAL.] GEORGE DELURY,
County Clerk and ex officio Clerk of the Board of Supervisors of the County of Mono, State of California.

I, George Delury, county clerk, and ex officio clerk of the board of supervisors of the county of Mono, State of California, do hereby certify that the attached foregoing copy of a plan of a county road is a full, true, and accurate copy of the original plan of a county road, referred to in the attached certified copy of resolution of said board establishing said road, so far as said road touches or affects section 14 of township 2 north, of range 25 east, M. D. M., as shown by the official records of the board of supervisors of the county of Mono, State of California, on file in my office in said county and State.

In witness whereof I have hereunto set my hand and affixed the official seal of said board this 2d day of September, 1910.

[SEAL.] GEORGE DELURY,
County Clerk and ex officio Clerk of the Board of Supervisors of the County of Mono, State of California.

DEFENDANT'S EXHIBIT W.

BOARD OF SUPERVISORS,
Mono County, Cal.

In the matter of the application of the Hydro Electric Co. for a permit, privilege, right, and permission to erect, construct, maintain, and operate along, across, over, and under that certain public highway of the said county of Mono running from Lundy Lake to Bodie Canyon, the maps and specifications of which highway were filed with said board of supervisors on the 29th day of June, 1910.

This matter coming on regularly to be heard at a regular meeting of said board held at Bridgeport, in said Mono County, on the 18th day of August, 1910, and said application having been duly considered by this board,

It is ordered, That said Hydro Electric Co., a corporation, duly organized and existing and doing business in said Mono County, is hereby authorized and permitted to erect, construct, maintain, and operate along, across, over, and under said high-

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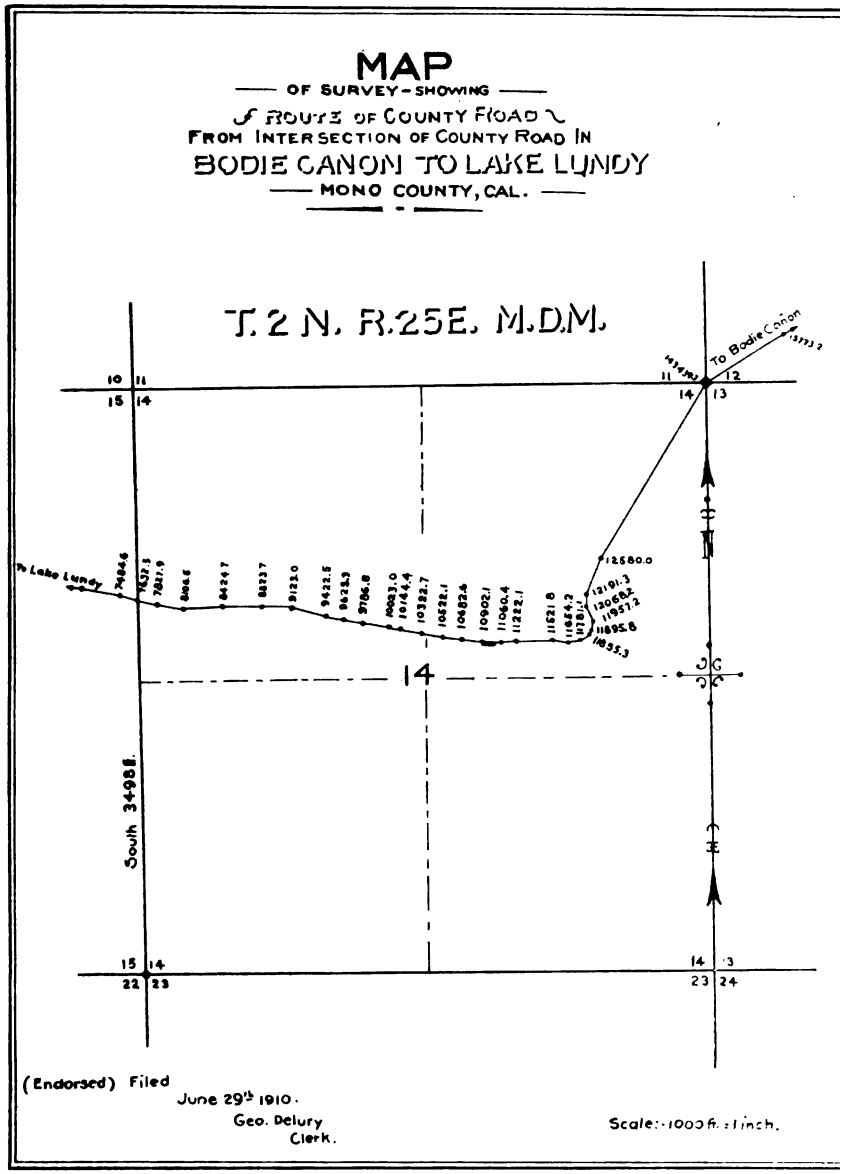
way poles, masts, and other superstructures upon and from which to suspend wir and other appliances for the transmitting and conducting of electric current for ligh heat, and power, and for all other purposes for which the same may be adapted, an to lay and maintain pipes, flumes, or other appliances under said road or highwa



for the purpose of conducting water or electric current to be used in connection wit the workings of said corporation.

Said corporation agreeing to and with said board that said poles, masts, line flumes, pipes, or other appliances permitted under and by virtue of this order sha be so constructed, conducted, and maintained as not to interfere with the free an

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public use of said highway, and that nothing will be made or done by said corporation that will in any way interfere with the use of said highway by the general public.

Dated August 18, 1910.

C. E. DAY, *Chairman.*

Attest:
[SEAL.] GEO. DELURY, *Clerk.*

I, George Delury, county clerk and ex officio clerk of the board of supervisors of the county of Mono, State of California, do hereby certify that the attached foregoing copy of a resolution granting the Hydro Electric Co., a corporation, permission to erect, construct, maintain, and operate along, across, over, and under a highway, poles, masts, and other superstructures for the transmitting and conducting of electric current for light, heat, and power, and for other purposes, is a full, true, and accurate copy of the original resolution passed by said board, as shown by the official records of the board of supervisors of the county of Mono, State of California, on file in my office in said county and State.

In witness whereof I have hereunto set my hand and affixed the official seal of said board this 2d day of September, 1910.

[SEAL.] GEORGE DELURY,
County Clerk and ex officio Clerk Board of Supervisors,
County of Mono, State of California.

DEFENDANT'S EXHIBIT X.

In the Circuit Court of the United States, Ninth Circuit, Northern District of California. United States of America, complainant, *v.* Hydro Electric Co., a corporation, defendant. Affidavit of A. B. Burt in support of modification of temporary restraining order.

UNITED STATES OF AMERICA,
Northern District of California, City and County of San Francisco, ss:

A. B. Burt, being first duly sworn, deposes and says:

Affiant is the assistant manager of the pipe department of the Redwood Manufacturers' Co., of San Francisco, Cal., and as such has had charge of and is familiar with the construction and laying of the wood stave pipe-line of the project of the defendant company in the above-entitled suit. Affiant's company is under contract to construct and lay said pipe, and has a crew of 30 men now at work thereon, of whom approximately one-third are skilled and two-thirds are unskilled workmen.

Two miles of such pipe are already laid, all across patented land, and 800 feet and more across the unpatented mining claims described in the bill of complaint in the above-entitled suit, and the material for the remaining distance is scattered upon the ground and exposed to sun and weather. No more work can be done without modification of the restraining order in said suit. Affiant is now holding said crew of men upon the ground awaiting action of the court at an actual expense, damage, and loss of $100 per day. Furthermore, said material scattered upon the ground will in less than one week become so badly warped and twisted by reason of the sun and excessive dry atmosphere upon the desert, where it is situated, that a large portion of it can not be used. The loss and damage from this source will be at least $500. Furthermore, the 800 or more feet laid upon unpatented claims can not be filled with water until bulkheads or the remaining portion is constructed, and unless such pipe is filled with water within 10 days it will be so badly damaged as to require entire reconstruction and in large part replacement, with an actual loss and damage of at least $1,500. Furthermore, if said crew of men can not be kept employed and kept together the dispersement of said crew and the cost of reassembling, reorganizing, and transporting a new crew will be at least $500, which will be a total loss and damage.

On the other hand, the ditch where said pipe-line crosses said patented claims is now, and ever since before the commencement of the above-entitled suit was, completely dug and excavated and the laying of said pipe-line as above set forth by affiant will not require the removal of a single shovelful of dirt or rock, nor will it disturb or injure or in any way change or affect the surface of the ground, nor anything growing upon the ground, nor will it in any way, shape, or manner damage said ground or anything thereon.

A. B. BURT.

Subscribed and sworn to before me this 8th day of September, 1910.

[SEAL.] C. B. SISSIORS,
Notary Public in and for the City and County of
San Francisco, State of California.

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DEFENDANT'S EXHIBIT —.

In the Circuit Court of the United States, Ninth Circuit, Northern District of California. United States of America, complainant, *v.* Hydro Electric Co., a corporation, defendant. Affidavit of A. F. Dieter.

UNITED STATES OF AMERICA,
Northern District of California, City and County of San Francisco, ss:

A. F. Dieter, being first duly sworn, deposes and says:

Affiant is the secretary and treasurer of the above-named defendant company; affiant has read the attached affidavit by A. B. Burt and says that the contents thereof are true to affiant's own knowledge.

Affiant says, further, that under said contract with the Redwood Manufacturers' Co. the loss and damage named in said affidavit of A. B. Burt will fall almost entirely upon said defendant company. Further, affiant says that said pipe line lies entirely across arid, barren, desert land; is situated at an altitude of more than 7,700 feet above sea level, where the winter season, with severe cold and deep snow, sets in in November or early in December, and is more than 60 miles distant from the nearest accessible railway station; that if the workmen now upon the ground can not proceed immediately with the laying of said pipe line the material now scattered along said line will have to be replaced by new material yet to be ordered and shipped and freighted by wagons; that the delay resulting therefrom and from the disbanding of the present crew and organizing and transporting of a new crew to lay said pipe will make it impossible to complete said pipe line before the coming winter season sets in. And in that event the total length of said line at present constructed, more than 10,000 feet, will be almost a total loss, which loss and damage will amount to more than $35,000. Such loss can be prevented and said line preserved only by entirely completing said pipe line across said unpatented claims, so that water can be kept running through the total length of said line in order to prevent either the caving in or the freezing and bursting thereof.

Affiant says, also, that said pipe line can be completed along the ditch, which is already constructed, without moving or disturbing a single shovel full of dirt, stone, or earth, or in any way affecting or in any particular working any damage or injury at all whatever to any portion of said land or to anything growing or being thereon; that, on the contrary, if said line can not be completed, as above stated, great and irreparable damage and injury will be inflicted not only upon the above-named defendant company, but also upon the mines and miners in and around Bodie, Cal., and Aurora and Luckyboy, Nev.

Wherefore affiant prays that the said temporary restraining order may be modified to allow the laying of said pipe line of defendant upon the surface entirely across said unpatented mining claims and the filling of the same with water, with the condition, provision, and restriction that the surface of said claim shall not be dug into or disturbed or in any manner affected or in any way damaged or injured.

A. F. DIETER.

Subscribed and sworn to before me this 10th day of September, 1910.

[SEAL.] M. V. COLLINS,
Notary Public in and for the City and County of San Francisco, State of California.

RESPONDENT'S EXHIBIT 1.

In the Superior Court of the State of California, in and for the county of Mono. J. M. Miller, plaintiff, *v.* J. G. Thompson, N. Dondero, G. Filesina, T. Sylvester, P. E. Folsom, C. H. Currie, L. W. Dechambeau, Jerome La Braque, J. H. Sturgeon, A. Gardella, H. F. Cavin, W. O. Lundy, B. B. McKnight, R. P. McGhan, H. J. McGhan, and M. E. McGhan, defendants.

JUDGMENT AND DECREE.

This cause came on regularly for trial on the 18th day of September, 1899, Wm. O' Parker, Esq., appearing as attorney for plaintiff, Richard S. Miner, Esq., appearing as attorney for defendant N. Dondero, Chas. L. Hayes, Esq., appearing as attorney for defendants A. Gardella, T. Sylvester, L. W. Dechambeau, B. B. McKnight, H. F. Cavin, C. H. Currier, and W. O. Lundy. J. D. Murphey, Esq., appearing as attorney for defendants P. E. Folsom, J. H. Sturgeon, G. Felesina, and Jerome La Braque. White Smith,

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Esq., appearing as attorney for defendants R. P. McGhan, H. J. McGhan, and M. E. McGhan and Richard S. Miner, Esq., and Chas. L. Hayes, Esq., appearing as attorney for defendant J. G. Thompson, and said cause having been regularly tried by the court. before the Hon. R. C. Rust, judge of the Superior Court of the State of California, in and for the county of Amador (the said judge having been duly appointed, ordered, and commissioned to try said cause by his excellency the governor of the State of California, on account of the disability of the judge of the superior court of said Mono County), a jury having been expressly waived, whereupon witnesses on the part of the plaintiff and the several defendants were duly sworn and examined and documentary evidenced introduced by the respective parties, and the court having heard the proofs and evidence of the respective parties and the arguments of counsel and being fully advised in the premises, and having heretofore on the 28th day of January, 1901, duly and regularly rendered, made and given its decision in writing and findings of fact and conclusions of law, and in which decision the facts found and the conclusions of law are separately stated and are now each and all on the file in this cause, and wherein and whereby the said court ordered that judgment be rendered, given, and made and entered herein in accordance therewith for and against the respective parties to this action;

Wherefore, by reason of the law, and the decision, findings of fact, and conclusions of law, and the premises aforesaid;

It is ordered, adjudged, and decreed, that long prior to the commencement of this action and ever since and now, the said plaintiff was, and is now the owner of, in the possession of, and entitled to the possession of that certain water right, privilege, and water property below described, and of those certain tracts of land and premises described in the complaint herein, all situated, lying and being in the county of Mono, State of California, described as follows:

The northeast quarter of northwest quarter of section 20, east half of southwest quarter and southwest quarter of southwest quarter of section 17, all in T. 2 N., R. 26 E., M. D. B. and M., and containing 160 acres, and of the undisputed usufructuary right to all of the natural flow of that certain stream of water situated in said county and State aforesaid, and known as and called "Mill Creek," to the extent of 300 inches, measured under a 4-inch pressure, and of the undisputed usufructuary right to use in a reasonable way and manner for the irrigation of said tracts of land and for the benefit and improvement of the soil thereof and for watering cattle and stock, for domestic, culinary, and other household purposes, all of the natural flow of said stream to the extent of 300 inches measured under a 4-inch pressure as aforesaid, subject only to the rights of the defendant Sturgeon, as hereinafter determined and decreed, said Mill Creek has its rise and source at a point above and west of the tracts of land embraced in the pleadings of this action and when unimpeded and unrestrained, all of its water naturally flows in a natural channel down to, over, and through said lands of plaintiff.

It is further ordered, adjudged and decreed, that long prior to the commencement of this action and ever since and now the defendant James H. Sturgeon, was and is now the owner of, in the possession of, and entitled to the possession of that certain water right, privilege, and water property below described and of those certain tracts of land and premises described in the answer of the said defendant Sturgeon herein, all situated, lying, and being in the county of Mono, State of California, described as follows:

The northwest quarter of the southeast quarter; the west half of northeast quarter; the northeast quarter of northwest quarter of section 6, T. 2 N., R. 26 E. The fractional west half of northwest quarter of section 6, T. 2 N., R. 26 E.; the fractional south half of southwest quarter of section 31, T. 3 N., R. 26 E.; the northeast quarter of section 1, T. 2 N., R. 25 east; the north half of southeast quarter section 1, T. 2 N., R. 25 east; the west half of southwest quarter of section 6, T. 2 N., R. 26 east; and south half of southeast quarter of section 36, T. 3 N., R. 26 east, M. D. B. and M., and containing 679.10 acres of land, and of the undisputed, usufructuary right to all the natural flow of that certain stream of water situated in said county and State aforesaid, and known as and called "Mill Creek," to the extent of 600 inches measured under a 4-inch pressure, and the undisputed usufructuary right to use in a reasonable way and manner for the irrigation of said tracts of land and for the benefit and improvement of the soil thereof, and for watering cattle and stock, for domestic, culinary, and other household purposes all of the natural flow of said stream to the extent of 600 inches measured under a 4-inch pressure as aforesaid, which 600 inches measured as aforesaid is decreed to be the first or prior right to the use of said Mill Creek, and to which all the other rights herein determined and decreed are subject and subordinate.

It is further ordered, adjudged, and decreed, that the said defendant James H. Sturgeon, was for a long time prior to the commencement of this action and now is entitled to the undisputed usufructuary right to all the natural flow of that certain

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stream of water situated in said county and State aforesaid, and known as and called "Mill Creek," to the extent of 100 inches measured under a 4-inch pressure in addition to the 600 inches hereinbefore decreed to said defendant, and of the undisputed usufructuary right to use in a reasonable way and manner for the irrigation of the said above-described tracts of land and for the benefit and improvement of the soil thereof and for watering cattle and stock, for domestic, culinary, and other household purposes all of the natural flow of said stream to the extent of 100 inches thereof measured under a 4-inch pressure in addition to the 600 inches hereinbefore set out, which right of said defendant, Sturgeon, to the said 100 inches of water is subject and subordinate to the right of the plaintiff herein, and to the rights of the defendants, Thompson, Sylvester, Dechambeau, Felesina, and Folsom, as hereinafter determined and decreed.

It is further ordered, adjudged, and decréed that long prior to the commencement of this action, and ever since and now, the defendant, James G. Thompson, was and now is the owner of, in the possession of, and entitled to the possession of that certain water-right privilege and water property below described and of those certain tracts of land and premises described in the answer of the said defendant, Thompson, herein, all situated, lying, and being in the county of Mono, State of California.

The northeast quarter of southwest quarter of section 14, T. 2 N., R 25 east; the northwest quarter of southeast quarter of section 2, T. 2 N., R. 25 east; the northeast quarter of northwest quarter of section 17, T. 2 N., R. 26 east; the south half of the northwest quarter, the southwest quarter of the northeast quarter, and the northeast quarter of the southwest quarter of section 19, T. 2 N., R. 26 east; the fractional northwest quarter of southeast quarter and fractional southwest quarter of southeast quarter of section 19, T. 2 N., R. 26 east; the southwest quarter of southeast quarter of section 19, T. 2 N., R. 26 east; the southeast quarter of southwest quarter of section 19, T. 2 N., R. 26 east; the northeast quarter of section 19, T. 2 N., R. 26 east; the northwest quarter of the southwest quarter of section 19, T. 2 N., R. 26 east; the southeast quarter of northwest quarter of section 24, T. 2 N., R. 25 east; the northeast quarter of the southeast quarter of section 24, T. 2 N., R. 25 east, all in M. D. B. and M. and containing 548.43 acres of land, and the undisputed usufructuary right to all the natural flow of that certain stream of water situated in said county and State aforesaid, and known as and called "Mill Creek," to the extent of 700 inches, measured under a 4-inch pressure, and of the undisputed usufructuary right to use in a reasonable way and manner for the irrigation of said tracts of land, and for the benefit and improvement of the soil thereof, and for watering cattle and stock, for domestic, culinary, and other household purposes all the natural flow of said stream to the extent of 700 inches thereof, measured under a 4-inch pressure as aforesaid, which said right is subject and subordinate to the rights of the plaintiff herein, and to the prior right of the defendant Sturgeon, as hereinafter set out, also subject and subordinate to the rights of the defendants Felesina, Dechambeau, and Sylvester, as hereinafter determined and decreed.

It is further ordered, adjudged, and decreed that long prior to the commencement of this action and ever since and now the defendant, G. Felesina was, and now is, the owner of, in the possession of, and entitled to the possession of that certain water right, privilege, and water property below described and of those certain tracts of land and premises described in the answer of the said defendant Felesina herein, all situated, lying, and being in the county of Mono, State of California, described as follows:

The NW. ¼ sec. 19, T. 2 N., R. 26 E., and NE. ¼ of the NE. ¼ sec. 24, T. 2 N., R. 26 E., containing 80 acres and being east of M. D. B. and M., and of the undisputed usufructuary right to all the natural flow of that certain stream of water situated in said county and State aforesaid, and known as and called "Mill Creek," to the extent of 120 inches, measured under a 4-inch pressure, and the undisputed usufructuary right to use in a reasonable way and manner for the irrigation of said tracts of land and for the benefit and improvement of the soil and for watering cattle and stock, for domestic, culinary, and other household purposes, all the natural flow of said stream to the extent of 120 inches thereof, measured under a 4-inch pressure, as aforesaid, which said right, however, is subject and subordinate to the rights of the plaintiff herein and to the prior rights of the defendant Sturgeon, as hereinbefore set out.

It is further ordered, adjudged, and decreed that long prior to the commencement of this action and ever since and now the defendant, L. W. Dechambeau, was, and now is, the owner of, in the possession of, and entitled to the possession of that certain water right, privilege, and water property below described and of those certain tracts of land and premises described in the answer of said defendant Dechambeau herein, all situated, lying, and being in the county of Mono, State of California, described as follows:

The NW. ¼ NE. ¼ and NW. ¼ SE. ¼ sec. 24, T. 2 N., R. 25 E., and W. ½ and W. ½ of E. ½ of SW. ¼ sec. 24, T. 2 N., R. 25 E. M. D. B. and M., containing 110 acres of

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land, and of the undisputed usufructuary right to all the natural flow of that certain stream of water situated in said county of Mono, State of California, and known as and called "Mill Creek," to the extent of 50 inches, measured under a 4-inch pressure, and of the undisputed usufructuary right to use in a reasonable way and manner for the irrigation of said tracts of land and for the benefit and improvement of the soil thereof and for watering cattle, stock, for domestic, culinary, and other household purposes, all the natural flow of said stream to the extent of 50 inches thereof, measured under a 4-inch pressure, as aforesaid, which said right, however, is subject and subordinate to the rights of the plaintiff herein and to the prior right of defendant Sturgeon, as hereinbefore set out.

It is further ordered, adjudged, and decreed that long prior to the commencement of this action, and ever since and now, the defendant, Thomas Sylvester, was, and now is, the owner of, in the possession of, and entitled to the possession of that certain water right, privilege, and water property below described and of those certain tracts of land and premises described in the answer of said defendant Sylvester herein, all situated, lying, and being in the county of Mono, State of California, described as follows:

The SE. ¼ NE. ¼, E. ½ E. ½ SW. ¼ NE. ¼ sec. 24, T. 2 N., R. 25 E., M. D. B. and M., containing 50 acres of land, and of the undisputed usufructuary right to all the natural flow of that certain stream of water situated in the county and State aforesaid and known as and called "Mill Creek," to the extent of 80 inches, measured under a 4-inch pressure, and of the undisputed usufructuary right to use in a reasonable way and manner for the irrigation of said tracts of land and premises and for the benefit and improvement of the soil thereof and for watering cattle, stock, for domestic, culinary, and other household purposes, all the natural flow of said stream to the extent of 80 inches, measured under a 4-inch pressure, as aforesaid, which said right, however, is subject and subordinate to the rights of the plaintiff herein and to the prior right of the defendant Sturgeon, as hereinbefore set out.

It is further ordered, adjudged, and decreed that long prior to the commencement of this action, and ever since and now, the defendant, P. E. Folsom, was, and now is, the owner of, in the possession of, and entitled to the possession of that certain water right, privilege, and water property below described, and of those certain tracts of land and premises described in the answer of said defendant, Folsom, herein, all situated, lying, and being in the county of Mono, State of California, as follows:

A certain mill site, consisting of 5 acres, more or less, situated in Jordan mining district, said county and State, and about one-half mile southwest from Sturgeon's ranch, formerly owned by the Detroit Copper Mining Co. as a mill site; also, the south half of the northwest quarter, and the north half of the southwest quarter of section 12, T. 2 N., R. 25 E., M. D. B. and M., containing 165 acres, more or less, of land, and of the undisputed usufructuary right to all the natural flow of that certain stream of water situated in said county and State aforesaid, and known as and called "Mill Creek," to the extent of 150 inches, measured under a 4-inch pressure, and of the undisputed usufructuary right to use in a reasonable way and manner for the irrigation of said tracts of land and for the benefit and improvement of the soil thereof, and for watering cattle and stock, for domestic, culinary, and other household purposes, all the natural flow of said stream to the extent of 150 inches thereof, measured under a 4-inch pressure, as aforesaid, which said right is subject and subordinate to the rights of the plaintiff herein, to the prior right of the defendant, Sturgeon, and to the rights of the defendants, Thompson, Felesina, Dechambeau, and Sylvester, as hereinbefore set out.

It is further ordered, adjudged, and decreed that long prior to the commencement of this action, and ever since and now, the defendant, A. Gardella, was, and now is, the owner of, in the possession of, and entitled to the possession of that certain water right, privilege, and water property below described, and of those certain tracts of land and premises described in the answer of the said defendant, Gardella, herein, all situate, lying, and being in the county of Mono, State of California, described as follows:

The west half of the northeast quarter, northeast quarter of northeast quarter of section 10; and the northwest quarter of the northwest quarter of section 11, T. 2 N., R. 26 E., M. D. B. and M., containing 160 acres of land, and of the undisputed usufructuary right to all the natural flow of that certain stream of water situated in said county and State aforesaid and known as and called "Mill Creek," to the extent of 240 inches, measured under a 4-inch pressure, and of the undisputed usufructuary right to use in a reasonable way and manner for the irrigation of said tracts of land, and for the improvement and benefit of the soil thereof, and for watering stock and cattle, for domestic, culinary, and other household purposes, all the natural flow of said stream to the extent of 240 inches, measured under a 4-inch pressure thereof, as aforesaid, which said right is subject and subordinate to the rights of the plaintiff

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herein, and to the rights of the defendants, Sturgeon, Thompson, Felesina, Dechambeau, Sylvester, and Folsom, as hereinbefore set out and determined.

It is further ordered, adjudged, and decreed that long prior to the commencement of this action, and ever since and now, the defendant, N. Dondero, was, and now is, the owner of, in the possession of, and entitled to the possession of that certain water right, privilege, and water property below described, and of those certain tracts of land and premises described in the answer of the said defendant, Dondero, herein, all situated, lying, and being in the county of Mono, State of California, described as follows: The east half of the northwest quarter, southwest quarter of northwest quarter, and northeast quarter of southwest quarter of section 10, T. 2 N., R. 26 E., M. D. B. and M., containing 160 acres of land, and the undisputed usufructuary right to all the natural flow of that certain stream of water, situated in said county and State aforesaid, and known as and called "Mill Creek," to the extent of 390 inches, measured under a 4-inch pressure, and of the undisputed usufructuary right to use in a reasonable way and manner for the irrigation of said tracts of land, and for the benefit and improvement of the soil thereof, and for watering cattle and stock, for domestic, culinary, and other household purposes, all of the natural flow of said stream to the extent of 390 inches, measured under a 4-inch pressure, as aforesaid, which said right is subject and subordinate to the rights of the plaintiff herein, and to the rights of the defendants, Sturgeon, Thompson, Felesina, Dechambeau, Sylvester, Folsom, and Gardella, as hereinbefore set out and determined.

It is further ordered, adjudged, and decreed that long prior to the commencement of this action, and ever since and now the defendant C. H. Currie was, and now is the owner of, in the possession of, and entitled to the possession of that certain water right, privilege, and water property below described, and of those certain tracts of land and premises described in the answer of the said defendant Currie, herein, all situated in the county of Mono, State of California, and described as follows: The north half of the northeast quarter of section 19, and the northwest quarter of the northwest quarter of section 20, T. 2 N., R. 26 east, M. D. B. and M., and containing 120 acres of land, and of the undisputed usufructuary right to all the natural flow of that certain stream of water situated in the said county and State aforesaid, and known as and called "Mill Creek," to the extent of 150 inches measured under a 4-inch pressure, and of the undisputed usufructuary right to use in a reasonable way and manner for the irrigation of said tracts of land and for the improvement and benefit of the soil thereof, and for watering stock and cattle, for domestic, culinary, and other household purposes all the natural flow of said stream to the extent of 150 inches measured under a 4-inch pressure as aforesaid, which said right is subject to the rights of the plaintiff herein, and to the rights of the defendants, Sturgeon, Thompson, Felesina, Dechambeau, Sylvester, Folsom, Gardella, and Dondero, as hereinbefore set out and determined.

It is further ordered, adjudged, and decreed that long prior to the commencement of this action, and ever since and now, the defendant Jerome La Braque was, and now is the owner of, in the possession of, and entitled to the possession of that certain water right, privilege, and water property below described, and of those certain tracts of land and premises described in the answer of defendant La Braque, herein, all situated, lying, and being in the county of Mono, State of California, described as follows: The west half of the southwest quarter of section 18, and the east half of the southeast quarter of section 13, T. 2 N., R. 25 east, M. D. B. and M., containing 160 acres of land, and of the undisputed usufructuary right to all the natural flow of that certain stream of water situated in said county and State aforesaid, and known as and called "Mill Creek," to the extent of 150 inches measured under a 4-inch pressure, and of the undisputed usufructuary right to use in a reasonable way and manner for the irrigation of said tracts of land and for the inprovement and benefit of the soil thereof, and for watering stock and cattle, for domestic, culinary, and other household purposes, all the natural flow of said stream to the extent of 150 inches thereof measured under a 4-inch pressure, as aforesaid, which said right is subject and subordinate to the rights of the plaintiff herein, and to the rights of the defendants, Sturgeon, Thompson, Felesina, Dechambeau, Sylvester, Folsom, Gardella, Dondero, and Currie, as hereinbefore set out and determined.

It is further ordered, adjudged, and decreed that long prior to the commencement of this action, and ever since and now, the defendant H. J. McGhan was, and now is the owner of, in the possession of, and entitled to the possession of that certain water right, privilege, and water property below described, and of those certain tracts of land and premises described in the answer of the said defendant H. J. McGhan, herein, all situated, lying, and being in the county of Mono, State of California, and described as follows:

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The west half of the northwest quarter and the southwest quarter of the northwest quarter of section 16, T. 2 N., R. 26 east, M. D. B. and M., containing 160 acres of land, and the undisputed usufructuary right to all the natural flow of that certain stream of water situated in said county and State, aforesaid, and known as and called "Mill Creek," to the extent of 50 inches measured under a 4-inch pressure, and of the undisputed usufructuary right to use in a reasonable way and manner for the irrigation of said tracts of land and for the improvement and benefit of the soil thereof, and for watering stock and cattle, for domestic, culinary, and other household purposes, all the natural flow of said stream to the extent of 50 inches measured under a 4-inch pressure, as aforesaid, which said right is subject and subordinate to the rights of the plaintiff herein, and to the rights of the defendants, Sturgeon, Thompson, Felesina, Dechambeau, Sylvester, Folsom, Gardella, Dondero, Currie, and La Braque, as hereinbefore set out and determined.

It is further ordered, adjudged, and decreed that long prior to the commencement of this action, and ever since and now, the defendant B. B. McKnight was, and now is, the owner of, in the possession of, and entitled to the possession of that certain water right, privilege, and water property below described and of those certain tracts of land and premises described in the answer of the said defendant McKnight, herein, all situated, lying and being in the county of Mono, State of California, and described as follows:

The south half of the southeast quarter, the northwest quarter of the southeast quarter, and the southeast quarter of the southwest quarter of section 18, T. 2 N., R. 26 east, M. D. B. and M., containing 160 acres of land, and the undisputed usufructuary right to all the flow of that certain stream of water situated in the county of Mono and State aforesaid, and known and called "Mill Creek," to the extent of 100 inches measured under a 4-inch pressure, and the undisputed usufructuary right to use in a reasonable way and manner for the irrigation of said tracts of land for the benefit and improvement of the soil thereof, and for watering stock and cattle, for domestic, culinary, and other household purposes, all the natural flow of said stream to the extent of 100 inches measured under a 4-inch pressure as aforesaid, which said right is subject and subordinate to the rights of the plaintiff herein, and to the rights of the defendants Sturgeon, Thompson, Felesina, Dechambeau, Sylvester, Folsom, Gardella, Dondero, Currie, LaBraque, H. J. McGhan, and Lundy, as hereinbefore set out and determined.

It is further ordered, adjudged, and decreed that long prior to the commencement of this action, and ever since and now, the defendant H. F. Cavin was, and now is, the owner of, and in the possession of, and entitled to the possession of that certain water right, privilege, and water property below described, and to those certain tracts of land and premises described in the answer of the said defendant Cavin, herein, all situated, lying, and being in the county of Mono, State of California, and described as follows:

The northeast quarter of section 12, T. 2 N., R. 25 east, containing 160 acres of land, and of the undisputed usufructuary right to use in a reasonable way and manner for the irrigation of said tracts of land and for the benefit and improvement of the soil thereof, and for watering stock and cattle, for domestic, culinary, and other household purposes, such of the surplus waters of Lake Lundy, situated on Mill Creek, above and west of the lands herein set forth as he may develop by means of dams and head gate erected at the foot of said lake to the extent of 300 inches measured under a 4-inch pressure.

It is further ordered, adjudged, and decreed that for a long time prior to the commencement of this action, and ever since and now, the defendant hereinafter named, P. E. Folsom, was, and now is, entitled to the undisputed usufructuary right to all the natural flow of that certain stream of water situated in said county and State aforesaid, and known as and called "Mill Creek," to the extent of 50 inches measured under a 4-inch pressure, in addition the 150 inches hereinbefore decreed to said defendant, and to the undisputed usufructuary right to use in a reasonable way and manner for the irrigation of his tracts of land hereinbefore described and set out and for the benefit and improvement of the soil thereof, and for watering stock, for domestic, culinary, and other household purposes, all the natural flow of said stream to the extent of 50 inches measured under a 4-inch pressure, in addition to the 150 inches hereinbefore decreed and awarded to him, which said right to said additional 50 inches as aforesaid is subject and subordinate to the rights of all the other parties in this action as hereinbefore set out and determined.

It is further ordered, adjudged, and decreed that said defendants save, and except defendant James H. Sturgeon, their and each of their servants, agents, and employees and each of them, be and they are, and each of them is, perpetually enjoined and restrained from and commanded absolutely to refrain from and desist from diverting or taking out of the said Mill Creek any water in any manner or way whereby the plaintiff may be deprived of the use thereof to the extent of 300 inches measured

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under a 4-inch pressure as aforesaid and also, from keeping, maintaining, or erecting any obstruction, dam, or ditch which will prevent or stop the said waters to the extent of 300 inches as aforesaid from flowing down to, over, and through said lands of plaintiff; and also from diverting, obstructing, or diminishing the said waters to the extent of 300 inches as aforesaid, or any part thereof, of the said Mill Creek, at any point or points above said described lands of plaintiff so that the whole of said water to the extent of 300 inches as aforesaid will not flow down to, over, and through said lands and premises.

It is further ordered, adjudged, and decreed, hereby and herein, that said plaintiff do have and recover of and from each of the defendants herein, save and except the defendant M. E. McGhan, the sum of $9.19, being the amount taxed to each of said defendants as plaintiff's costs and disbursements incurred in this action.

Done in open court this 16th day of March, 1901.

R. C. RUST,
Judge of the Superior Court of the County of Amador, presiding at the trial of this action.

Recorded in Book B of judgments at folios 458 to 471, inclusive.

STATE OF CALIFORNIA, *County of Mono, ss:*

I, Geo. Delury, county clerk in and for the county of Mono, State of California, and exofficio clerk of the superior court in and for said county, do hereby certify that the within and foregoing is a full, true, and correct copy of the judgment and decree rendered and given in the within-named action as the same appears on file and of record in this office.

In witness whereof I have hereunto set my hand and affixed the seal of said court this 14th day of September, A. D. 1909.

[SEAL.]

GEO. DELURY,
County Clerk and ex-officio Clerk of the Superior Court, County of Mono, State of California.

(Indorsed:) No. 15210. In United States Circuit Court, Northern District of California. United States *v.* Hydro Electric Co. Respondent's Exhibit 1. H. M. Wright, master.

RESPONDENT'S EXHIBIT 2.

James H. Sturgeon to James F. Tichenor.

DEED.

This indenture, made the 10th day of July, in the year of our Lord 1896, between James H. Sturgeon, of the county of Mono, State of California, the party of the first part, and James F. Tichenor, of the city and county of New York, State of New York, the party of the second part; witnesseth,

That the said party of the first part, for and in consideration of the sum of $1,000, lawful money of the United States of America, to him in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, does by these presents grant, bargain, sell, convey, and confirm unto the said party of the second part, and to his heirs and assigns forever, all that certain water right or rights situate, lying, and being in the county of Mono, State of California, and bounded and particularly described as follows, to wit: The use of 50 inches (miner's measure) of the water of Mill Creek, situated in Mono County, State of California, and to be diverted from said Mill Creek at any point that the party of the second part may select on said Mill Creek, below the town of Lundy, said water being now conveyed by means of ditches to the ranch of the party of the first part, and used for the purpose of irrigation.

Said 50 inches of water to be conveyed by said party of the second part by means of a ditch or otherwise, constructed at the expense of said party of the second part, to a mill site situated below the Goleta mine in Jordan mining district, there to be used for quartz mining or any other purpose, without dictation or interference of the party of the first part, and all sand and slums running from said mill shall be impounded or flumed over the ditches of the said party of the first part, situated below said mill site and not allowed to run in said ditches; also, to the use to the further amount of 750 inches (miner's measure) of the waters of said Mill Creek, to be diverted by the said party of the second part in ditches or otherwise, constructed by said party of the second part, to a mill site situated below the Goleta mine, in Jordan mining district, in aforesaid county and State, said water to be diverted at any point on said Mill Creek

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below the town of Lundy. It is further agreed by the party of the second part that the said 750 inches of water, after being used for milling and other purposes, shall be conveyed into the ditches of said party of the first part below said mill site, free from sand or slum, at the expense of the party of the second part. For want of space in the body of the deed this slip is made a part of the deed and attached to the same.

All interlineations and erasures made before signing, together with the tenements, hereditaments, and appurtenances thereto belonging, or in anywise appertaining, and also all his right, title, and interest at law and equity therein or thereto, inclusive.

To have and to hold, the same to the said including all interest, or demands thereon his heirs and assigns forever; and I do covenant with the said James F. Tichenor and his legal representatives forever, that the said water rights is free from all incumbrances, and that he will and his heirs, executors, and administrators shall warrant and defend the same to the said James F. Tichenor, his heirs and assigns forever, against the lawful claims and demands of all persons whomsoever.

In witness whereof, the said party of the first part has hereunto set his hand and seal, the day and year first above written.

JAMES H. STURGEON. [SEAL.]

Signed, sealed, and delivered in the presence of A. A. Travis.

STATE OF CALIFORNIA, *County of Mono, ss:*

On this 10th day of July, in the year 1896, before me, R. G. Montrose, a justice of the peace in and for the county of Mono, personally appeared James H. Sturgeon, known to me to be the person described in, whose name is subscribed to, and who executed the within instrument, and he acknowledged to me that he executed the same.

In witness whereof I have hereunto set my hand at my office in the county of Mono the day and year in this certificate first above written.

R. G. MONTROSE,
Justice of the Peace.

Recorded at request of James F. Tichenor this 10th day of July, 1896, at 5 minutes past 5 p. m.

JOHN D. MURPHEY, *County Recorder.*

Recorded in book M of real estate deeds, at folio 449, records of Mono County, Cal.

STATE OF CALIFORNIA, *County of Mono, ss:*

I, Geo. Delury, county recorder in and for the county of Mono, State of California, do hereby certify that the within and foregoing is a full, true, and correct copy of the original deed as appears of record in my office.

In witness whereof I have hereunto set my hand and affixed the seal of my office, the 14th day of September, A. D. 1909.

[SEAL.]

GEO. DELURY,
County Recorder, Mono County, Cal.

(Indorsed:) No. 15210. In United States Circuit Court, Northern District of California, United States *v.* Hydro Electric Co. Respondent's Exhibit 2. H. M. Wright, master.

RESPONDENT'S EXHIBIT 3.

James F. Tichenor and Alice Tichenor, his wife, to Montecito Mining Co., Goleta Mining Co., and Sterling Mining Co.

DEED.

This indenture, made the 28th day of August, A. D. 1896, between James F. Tichenor and his wife, Alice Tichenor, of the city, county, and State of New York, parties of the first part, and the Montecito Mining Co., Goleta Mining Co., and the Sterling Mining Co., all of the Jordan mining district, Mono County, State of California, parties of the second part:

Witnesses that the said parties of the first part, for and in consideration of the sum of $2,500, lawful money of the United States of America, paid by the said parties of the second part, do hereby remise, release, and forever quitclaim unto the said parties of the second part, and their heirs forever, all that certain water right or rights situate, lying, and being in the county of Mono, State of California, and bounded and particularly described as follows, to wit: The use of 50 inches (miners' measure) of the water of Mill Creek, situated in Mono County, State of California, and to be diverted from said Mill Creek at any point that the parties of the second part may select on said Mill Creek, below the town of Lundy, said water being now conveyed by means of ditches to the ranch of James H. Sturgeon and used for the purpose of irrigation, as shown by

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deed dated the 10th day of July, 1896, from the said James H. Sturgeon to the said James F. Tichenor, one of the parties of the first part hereto, said 50 inches of water to be conveyed by said parties of the second part by means of a ditch or otherwise, constructed at the expense of said parties of the second part, to a mill site situated below the Goleta mine, in Jordan mining district, there to be used for quartz milling or any purpose without dictation or interference of the parties of the first part hereto, and all sand and slums running from said mill shall be impounded or flumed over the ditches of the said James H. Sturgeon, situated below said mill site, and not allowed in said ditches.

Also to the use of the further amount of 750 inches (miners' measure) of the water of said Mill Creek, to be diverted by the said parties of the second part in ditches or otherwise, constructed by said parties of the second part, to a mill site situated below the Goleta mine, in Jordan mining district, in aforesaid county and State, said water to be diverted at any point on said Mill Creek below the town of Lundy.

It is further agreed by the parties of the second part that the 750 inches of water, after being used for milling and other purposes, shall be conveyed into the ditches of said James H. Sturgeon below said mill site, free from sand or slum, at the expense of the parties of the second part; also that certain lot, piece, or parcel of land situate, lying, and being in the county of Mono, State of California, and bounded and particularly described as follows, to wit: S. ½ of NE. ¼ and the S. ½ of NW. ¼ of sec. 15, T. 2 N., R. 25 E., M. D. M. Together with the appurtenances and all the estate and rights of the said parties of the first part in and to the said premises. To have and to hold the above-described premises unto the said parties of the second part and their heirs and assigns forever.

And the said James F. Tichenor and Alice Tichenor, his wife, do hereby covenant with the said parties of the second part that the said parties of the first part have not done anything whereby the above-described premises have been encumbered in any way whatever.

In witness whereof the said parties of the first part to these presents have hereunto set their hands and seals, the day and year first above written.

JAMES F. TICHENOR. [SEAL.]
ALICE TICHENOR. [SEAL.]

In the presence of witnesses as to both:

E. N. GRANT.
JOHN FRILH.

STATE OF NEW YORK,
City and County of New York, ss:

On this 28th day of August, 1896, before me personally came James F. Tichenor and Alice Tichenor, his wife, to me known, and known to me to be the individuals described in and who executed the foregoing instrument, and they thereupon acknowledged to me that they executed the same, and the said Alice Tichenor being examined separate and apart from the husband touching her signature to the within conveyance, acknowledged that she signed the same of her own free will and accord and without fear, constraint, or threat on the part of her husband.

In witness whereof, I hereunto set my hand and seal this 28th day of August, 1896.

JOHN H. HANAN,
Notary Public, County of New York.

STATE OF NEW YORK,
City and County of New York, ss:

I, Henry D. Purroy, clerk of the city and county of New York, and also clerk of the supreme court for the said city and county, the same being a court of record, do hereby certify that John H. Hanan, whose name is subscribed to the certificate of acknowledgment of the annexed instrument, and thereon written, was, at the time of taking such proof of acknowledgment, a notary public in and for the city and county of New York, dwelling in the said city, commissioned and sworn, and duly authorized to take the same, and further, that I am well acquainted with the handwriting of such notary and verily believe the signature to the said certificate of proof or acknowledgment is genuine.

In testimony whereof I have hereunto set my hand and affixed the seal of the said court and county, the 29th day of August, 1896.

[SEAL.] HENRY D. PURROY, *Clerk.*

Recorded at request of D. M. Kent, this 20th day of January, 1897, at 5 minutes past 9 a. m.

J. D. MURPHEY, *County Recorder,*
By J. W. TOWLE, *Deputy Recorder.*

Recorded in book M of real-estate deeds, folio 508, records of Mono County, Cal.

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STATE OF CALIFORNIA, *County of Mono, ss:*

I, Geo. Delury, county recorder in and for the county of Mono, State of California, do hereby certify that the within and foregoing is a full, true, and correct copy of the deed from James Tichenor and wife to the Montecito Mining Co., Goleta Mining Co., and Sterling Mining Co., as the same appears of record in my office.

In witness whereof I have hereunto set my hand and affixed my official seal this 14th day of September, A. D. 1909.

[SEAL.]

GEO. DELURY,
County Recorder, Mono County, Cal.

(Indorsed:) No. 15210. In United States Circuit Court, Northern District of California. United States *v.* Hydro Electric Co. Respondent's Exhibit 3. H. M. Wright, master.

RESPONDENT'S EXHIBIT 4.

Goleta-Montecito and Sterling Mining Cos. to Goleta Consolidated Mining Co.

DEED.

This indenture, made the 11th day of July, in the year of our Lord 1899, between the Goleta-Montecito and Sterling Mining Cos., corporations organized and existing under the laws of the State of California, the parties of the first part, and the Goleta Consolidated Mining Co., a corporation organized and existing under the laws of the State of California, the party of the second part,

Witnesseth, that the said parties of the first part, for and in consideration of the articles of agreement on consolidation of date June 15, 1899, and the further consideration of the sum of $1, legal money of the United States of America, to them in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, have remised, released, and forever quitclaimed, and by these presents do remise, release, and forever quitclaim unto the said party of the second part, and to its successors and assigns,

All those certain lots, pieces, and parcels of land situate, lying, and being in Jordan mining district, county of Mono, State of California, and bounded and particularly described as follows, to wit:

The Golden Eagle and Apex consolidated lode mining claims, designated by the surveyor general as lots Nos. 43 and 44, respectively, and embracing a portion of sections 2 and 11, in township 2 north, of range 25 east, Mount Diablo meridian, for a fuller description of which reference is hereby made to mineral certificate No. 224, General Land Office No. 21290.

The Paraclete quartz lode mining claim, designated by the surveyor general as lot No. 42, embracing a portion of section 11, in township 2 north, of range 25 east, Mount Diablo meridian, for a fuller description of which reference is hereby made to mineral certificate No. 225, General Land Office No. 21900.

The Iron Mountain quartz mining lode claim, designated by the surveyor general as lot No. 45, embracing a portion of section 11, in township 2 north, of range 25 east, Mount Diablo meridian, for a fuller description of which reference is hereby made to mineral certificate No. 226, General Land Office No. 21901, all of the foregoing being embraced in deeds to the parties of the first part, as follows:

The Paraclete Mining Co. to Goleta Mining Co., of date July 28, 1890, recorded August 14, 1890, in volume U, page 402, of mining deeds, Mono County records; from the Paraclete Mining Co. to the Montecito Mining Co., of date July 28, 1890, recorded August 14, 1890, in volume U, page 406, of mining deeds, Mono County records; from the Castle Peak Mining Co. to the Sterling Mining Co., of date July 28, 1890, recorded August 14, 1890, in volume U, page 396, of mining deeds, Mono County records.

Also, the west ½ of SW. ¼ of section 1, north ½ of NW. ¼ section 12, north ½ of NE. ¼, SE. ¼ of NE. ¼ and SW. ¼ of NE. ¼ of section 11, township 2 north, range 25 east, M. D. M., containing 320 acres, more or less, said land having been conveyed to the parties of the first part by Stephen Roberts and his wife Agnes Roberts by deed of date February 5, 1897, recorded in volume U of real-estate deeds, page 15, Mono County Records, on July 20, 1898.

Also, the use of 800 inches (miner's) of water from Mill Creek, situated in Mono County, with conditions as specified in deed from James F. Tichenor and his wife Alice Tichenor.

Also, S. ½ of NE. ¼ and the S. ½ of NW. ¼ of section 15, township No. 2 N., R. 25 E., M. D. M., conveyed to the parties of the first part, together with the aforesaid water right, by James Tichenor and his wife Alice Tichenor, by deed of date August 28, 1896,

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recorded January 20, 1897, in book M, page 508 of real-estate records of Mono County, Cal., together with the 40-stamp mill, tramway, compressor, machinery, tools, and supplies, mill building, boarding house, and bunk house, office building (with furniture and fixtures therein), stable, blacksmith shop, two horses, one buggy, robes, and blankets.

Together with all and singular the tenements, hereditaments, and appurtenances thereunto belonging or in anywise appertaining, and the reversion and reversions, remainder and remainders, rents, issues, and profits thereof, and also all the estate, right, title, interest, property, possession, claim, and demand whatsoever, as well in law as in equity, of the said parties of the first part of, in, or to the said premises, and every part and parcel thereof, with the appurtenances.

To have and to hold, all and singular the said premises, together with the appurtenances, unto the said party of the second part, and to its successors and assigns forever.

In witness whereof the said parties of the first part, by their president and secretary, being duly authorized thereto, have hereunto set their hands and seals the day and year first above written.

GOLETA, MONTECETO, AND
STERLING MINING COS.,

[Goleta seal.]
[Monteceto seal.]
[Sterling seal.]

By STEPHEN ROBERTS, *President*. [SEAL.]
By D. M. KENT, *Secretary*. [SEAL.]

STATE OF CALIFORNIA,
City and County of San Francisco, ss:

On this 11th day of July, in the year 1899, before me, H. C. Droger, a notary public in and for the city and county of San Francisco, State of California, residing therein, duly commissioned and sworn, personally appeared Stephen Roberts and D. M. Kent, known to me to be the president and secretary, respectively, of the Goleta, Monteceto, and Sterling Mining Cos., the corporation described in and which executed the within annexed instrument, and acknowledged to me that such corporation executed the same.

In witness whereof I have hereunto set my hand and affixed my official seal at my office, in said city and county of San Francisco, the day and year in this certificate first above written.

[SEAL.]

H. C. DROGER,
Notary Public in and for the City and County of San Francisco, State of California.

Recorded at request of D. M. Kent, October 24, 1899, at 5 minutes past 9 a. m.

GEO. DELURY, *County Recorder*,
By J. W. TOWLE, *Deputy Recorder*.

Recorded in book V of mining deeds at folio 513, records of Mono County, Cal.

STATE OF CALIFORNIA,
County of Mono, ss:

I, George Delury, county recorder in and for the county of Mono, State of California, do hereby certify the within and foregoing to be a full, true, and correct copy of the original deed of the Goleta, Monteceto, and Sterling Mining Cos. to the Goleta Con. Mining Co., as the same appears of record in my office.

In witness whereof I have hereunto set my hand and affixed my official seal this 14th day of September, A. D. 1909.

[SEAL.]

GEO. DELURY,
County Recorder, Mono County, Cal.

(Indorsed:) No. 15210. In U. S. Circuit Court, Northern District of California. U. S. *v.* Hydro Electric Co. Resp. Exhibit 4. H. M. Wright, master.

RESPONDENT'S EXHIBIT 5.

Goleta Consolidated Mining Co. to Hydro Electric Co. Dated July 29, 1910.

DEED.

This indenture, made the 29th day of July, 1910, between the Goleta Consolidated Mining Co., a corporation duly incorporated and existing under the laws of the State of California, the party of the first part, and the Hydro Electric Co., a corporation duly incorporated and existing under and by virtue of the laws of the State of California, the party of the second part.

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Witnesseth that the said party of the first part for and in consideraion of $10 gold coin of the United States of America, to it in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, and for certain other good and valuable considerations, have remised, released, and forever quitclaimed, and by these presents do remise, release, and forever quitclaim unto the said party of the second part, its successors and assigns, the following lots, pieces, or parcels of land situate, lying, and being in the county of Mono, State of California, to wit:

The W. ½ of SW. ¼ of section 1; the N. ½ of NE. ¼ and the SE. ¼ of NE. ¼ of section 11; the N. ½ of NW. ¼ of section 12; the S. ½ of NE. ¼ and the S. ½ of NW. ¼ of section 15; all in township 2 N., R. 25 E., M. D. M., containing 440 acres more or less.

Also all surface rights to the following mining claims: The Paraclete United States mineral survey No. 42; the Golden Eagle United States mineral survey No. 43; the Apex United States mineral survey No. 44; the Iron Mountain United States mineral survey No. 45.

Situated in township 2 north of range 25 east M. D. M., in California.

Also the use of 800 miner's inches of water from Mill Creek, situate in said Mono County, with conditions as specified in deed from James F. Tichenor and his wife, Alice Tichenor, to the grantors of said party of the first part, all of record in the county recorder's office of said Mono County.

Also that certain ditch, conduit, and canal and the right of way and easement therefor acquired by said grantor by actual excavation, construction, and user under the laws of the United States and situated and described as follows, to wit: Commencing at a point on Mill Creek on the SE. ¼ of the SE. ¼ of the NE. ¼ of section 15, passing through and over the S. ½ of the S. ½ of the NW. ¼ of section 14, thence through and over the Lone Pine, the High Grade, the Johnnie Con, the Sunlight, the Wolf, and Halley mining locations, thence through and over the W. ½ of the SE. ¼ of section 11, and thence the W. ½ of NE. ¼ of section 11 to the Old Mill, all in township 2 N., R. 25 E., M. D. M. Said ditch has been and is known as the "old Goleta power ditch."

Said grantor reserves the minerals of all said mining claims and a right of way for roads, buildings, and for other needed purposes for its mining operations and development purposes.

Together with all water rights and privileges appurtenant to or connected with said or any of said lands; and together also with all other lands or rights to buy lands in the Mono Basin, in said Mono County, riparian to Mill Creek or Lundy Lake, except the Lundy town site at head of Lake Lundy; also all other water rights or interests therein a part of said Mill Creek waters or of said Lundy Lake owned by said party of the first part, except said town site and the waters heretofore used at the cyanide plant and mill on said town site.

Together with all and singular the tenements, hereditaments, and appurtenances thereunto belonging or in anywise appertaining and the reversion and reversions, remainder and remainders, rents, issues and profits thereof, and also all the estate, right, title, interests, property, possession, claim, and demand whatsoever, as well in law as in equity, of said party of the first part of, in, and to the said premises and every part and parcel thereof with the appurtenances.

To have and to hold all and singular the said premises, together with the appurtenances unto the said party of the second part and to its successors and assigns forever.

In witness whereof the said party of the first part has caused these presents to be subscribed by its president and secretary thereunto duly authorized and its corporate seal to be hereunto affixed the day and year first above written.

[SEAL.] GOLETA CONSOLIDATED MINING CO.
RUDOLPH HEROLD, Jr., *President.*
M. BERNARD, *Secretary.*

STATE OF CALIFORNIA,
City and County of San Francisco, ss:

On the 29th day of July, in the year 1910, before me, C. B. Sessions, a notary public in and for the city and county of San Francisco, residing therein, duly commissioned and sworn, personally appeared Rudolph Harold, jr., and Mr. Bernard, known to me to be the president and secretary, respectively, of the Goleta Consolidated Mining Co., the corporation that executed the within and foregoing instrument, and to be the officers who executed the said instrument on behalf of said corporation therein named and acknowledged to me that such corporation executed the same.

In witness whereof I have hereunto set my hand and affixed my official seal at my office, in the said city and county of San Francisco, the day and year last above written.

[SEAL.] C. B. SESSIONS,
Notary Public in and for the City and County of San Francisco, State of California.

My commission expires May 26, 1913.
(Corporation.)

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PROCEEDINGS OF SESSION OF JUNE 27, 1910, BOARD OF SUPERVISORS, COUNTY OF MONO, STATE OF CALIFORNIA.

Board met in special session. Present: Bawden, Mattly, Day, and Creaser. Absent: Rickey. Day, chairman, presiding.

The following call for a special meeting is ordered spread upon the minutes:

BOARD OF SUPERVISORS, *Mono County, Cal.*

We, the undersigned, being a majority of the board of supervisors of said Mono County, and in accordance with the provisions of 4034 of the Political Code of the State of California, do hereby order a special meeting of said board to be held on Monday, the 27th day of June, 1910, at the hour of 7 o'clock p. m., at the courthouse in Bridgeport, in said Mono County.

The purpose of said meeting is to consider the petition of the Hydro Electric Co. to construct and maintain a public highway in said Mono County, according to plans and specifications filed with said petition.

C. E. DAY, *Chairman.*
J. A. CREASER.
J. C. BAWDEN.
JOHN MATTLY.
C. W. RICKEY.

The following petition is now presented:

To the honorable Board of Supervisors, Mono County, Cal.:

Your petitioner, the Hydro Electric Co., a corporation duly organized and existing under and by virtue of the laws of the State of California, and doing business in the said county of Mono, would respectfully show to this honorable board: That petitioner is desirous of constructing, laying out, and maintaining a public highway in said Mono County, commencing at a point about 4 miles south of the town of Bodie and running in a southerly direction to or near the town of Lundy, according to the plans and specifications of said public highway accompanying this petition, which said plans and specifications are made a part of this petition; that petitioner will construct and maintain said public highway at its own cost and expense and without any cost whatever to said Mono County, and upon its completion will donate the same to said Mono County, free of charge and without any encumbrance of any kind or nature whatsoever; that said highway will be free to be used by said county or the traveling public and no tolls of any kind will be charged for the use of the same: Wherefore your petitioner prays your honorable body to permit it to construct and maintain said highway as aforesaid; and your petitioners will ever pray, etc.

HYDRO ELECTRIC CO.,
By J. S. CAIN,
Its duly authorized agent for this purpose.

After due consideration, moved by Bawden, seconded by Mattly, that the prayer of the petitioner be granted.

Ayes: Bawden, Mattly, Creaser, and Day (chairman). Noes: None. Absent: Rickey.

Attest: GEO. DELURY, *Clerk.* C. E. DAY, *Chairman.*

STATE OF CALIFORNIA,
County of Mono, ss:

I, George Delury, county clerk of the county of Mono and clerk of the board of supervisors of the said county of Mono, State of California, do hereby certify that the foregoing pages constitute a full, true, and correct copy of the minutes of the said board of supervisors, in special session, June 27, 1910, at 7 o'clock p. m. of said date, held at the county seat of Mono County, State of California, and that the notice thereof was duly filed and entered according to law and the statutes in such cases made and provided.

That the foregoing proceedings are taken from pages 13 and 14 of Book E, proceedings of the board of supervisors, which book is a public record of Mono County and legally in my custody as such county clerk and clerk of the board of supervisors of the said county of Mono, State of California.

Witness my hand and seal as said county clerk and the seal of the board of supervisors of Mono County, Cal., this 15th day of January, 1912.

[SEAL.]

GEO. DELURY,
County Clerk of Mono County and Clerk of the Board of Supervisors of said County.

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62D CONGRESS, 2d Session | HOUSE OF REPRESENTATIVES | DOCUMENT No. 718

MILITARY AVIATION

LETTER FROM
THE SECRETARY OF WAR
TRANSMITTING
PURSUANT TO HOUSE RESOLUTION 448
INFORMATION RELATIVE TO MILITARY
AVIATORS FOR THE ARMY AND FOR
OTHER PURPOSES

APRIL 26, 1912.—Referred to the Committee on Military Affairs
and ordered to be printed

WASHINGTON
GOVERNMENT PRINTING OFFICE
1912

H D—62-2—vol 141——19

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[House resolution 448.]

IN THE HOUSE OF REPRESENTATIVES
March 26, 1912.

Resolved, That the great importance and necessity of a practical knowledge of aviation as it relates to warfare being now generally admitted by all civilized nations, some of which are spending large sums of money in equipping their armies with various kinds of air craft as a means both of attack and of transport, the Secretary of War be, and he is hereby, directed to send to the House of Representatives full information upon the following points:

First. The results of his investigations and the transmission of any reports made by our official agents in foreign countries as to the development and value of aerial navigation, either for the purpose of warfare or to encourage scientific research.

Second. The extent and cost of our Government's equipment in aeroplanes or other air craft now being used in any capacity by the War Department, and the nature of the instruction in aeronautics which is being given to its Army officers and enlisted men.

Third. The plans now contemplated by the War Department for increasing the present equipment of aeroplanes, hydro-aeroplanes, and other air craft for the purposes of warfare and national defense, together with recommendations for such legislation as will adequately provide for such service with reference both to increasing the number of Army officers of the Signal Corps who may be detailed for aviation service as well as the establishment of additional schools of instruction and the building up of our air fleet commensurate with the necessity of properly maintaining our military status among the nations of the world.

Attest:

SOUTH TRIMBLE, *Clerk*.

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LETTER OF TRANSMITTAL.

WAR DEPARTMENT,
Washington, April 20, 1912.

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

SIR: I have the honor to transmit herewith information called for in House resolution 448, March 26, 1912. This information was compiled in the office of the Chief Signal Officer of the Army, and I concur in his recommendations except those with reference to increasing the number of officers of the Signal Corps and as to the organization for the aeronautic squadron.

It is thought that the present increment should not be more than is necessary to organize three squadrons, and the increment provided in the draft of a bill submitted March 14, 1912, to the chairman of the Committee on Military Affairs, House of Representatives, will be sufficient for this purpose.

It is believed that the organization for the aeronautic squadron need contain only 16 captains or lieutenants, instead of 18 as recommended, since one of the commissioned aviators can perform the necessary staff duties for the small squadron of two companies.

I do not concur in the recommendation of the Chief Signal Officer that an additional increment should be provided at this time. It is desired to test the proposed organization, and when it has proved a success, and when the Government has obtained a sufficient number of air craft to justify the organization of additional squadrons, Congress will be asked to provide the necessary number of officers.

Very respectfully,

H. L. STIMSON, *Secretary of War.*

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MILITARY AVIATION.

FIRST.—*The results of his investigations and the transmission of any reports made by our official agents in foreign countries as to the development and value of aerial navigation, either for the purpose of warfare or to encourage scientific research.*

FRANCE.

$4,800,000 FOR AEROPLANES, $1,600,000 FOR DIRIGIBLES, FOR THE FRENCH ARMY FOR 1912.

[From Lieut. Col. T. Bentley Mott, Field Artillery, military attaché, Paris, France, Feb. 15, 1912.]

Yesterday, before an enthusiastic audience in the Chamber of Deputies, the new French minister of war, M. Millerand, made a most interesting statement with regard to the projects for 1912 in regard to what concerns the aerial fleet of France. He terminated his speech by saying that the $2,400,000 immediately asked for would be supplemented by a request for an equal sum later on. This is for aeroplanes alone. He stated that for dirigibles he was now asking for $1,000,000 and later on would ask for $600,000 more. These statements were accepted and approved by the minister of finance and a large majority of the Chamber, and there seems every reason to suppose that these total sums will be forthcoming during the year 1912; that is, a total of $6,400,000 to be spent in the calendar year 1912 for the aerial fleet.

The speech of the minister of war was characterized by concision and many definite and interesting statements concerning aviation and aeronautics. Said the minister:

My first care is to thank the finance committee for the support it has brought me in the solution of this matter and for the support which it has promised me in the great national work which we are now undertaking. The Senate has once more shown itself the faithful interpreter of public opinion, which understands that aeronautics offer a vast field for the display of qualities preeminently French: Ingenuity, coolness, and audacity. Nevertheless, in whatever way we solve this question, there is bound to be some criticism. We can not, therefore, immediately realize a definite organization. My present ambition is to give such direction to our efforts as will prevent any waste of money which is given us.

The aviation unit will be a squadron of 8 aeroplanes, divided into 3 sections, 1 of monoplane machines, 1 of biplanes, and 1 of biplanes or multiplanes; in addition to these, a reserve section. Each squadron is to be provided with vehicles for the transport of the machines and their munitions. Eleven or 12 automobiles will be assigned to each squadron, with a tractor, a wheeled workshop, and one rapid automobile.

At the present moment we are in a position to form 13 squadrons out of the 208 aeroplanes which we have at our disposal; 8 of these would be squadrons for field armies and 5 for use of fortified places. The mobilization plan for each of these units has been made and the designation of the personnel and material with the units to which they are assigned has been established.

By the end of 1912 we should be able to mobilize 27 squadrons for the field armies, 5 for fortified places, and 10 sections, plus 1 reserve machine per section, for the cavalry divisions. Eventually, we intend to create 6 squadrons for use at points

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of the seacoast; in all, 344 aeroplanes. We expect to specialize for each field army a squadron of extra powerful machines for long distance reconnaissance.

In what concerns aeroplanes for the artillery we have postponed forming a definite program until after the special trials which will take place in March under the direction of a member of the war board. We already have had enough experience to predict the real aid aeroplanes can furnish to the artillery. When these tests are over we will make a definite organization.

We are going to begin immediately, with the expectation of finishing in 1913, the installation of 30 aviation centers—10 principal centers and 20 annexes. Each center will comprise sheds, workshops, storerooms, barracks, infirmaries, and assembly rooms; it will be both a place of instruction and a place of concentration for the squadrons. A large number of semipermanent and dismountable sheds will be erected at once, while waiting for more permanent installations at certain centers.

Each squadron will comprise 7 pilots, with the necessary mechanics, noncommissioned officers, and privates. We intend to have a total of 234 officers and sergeant pilots (not counting depot pilots), 210 officer observers (who will be outside of and supplementary to the squadron organization), 42 sergeant mechanics, 110 sergeant specialists, 1,600 corporals and privates (specialists), 550 nonspecialized sergeants and privates, and 42 assistant surgeons. Recruits for the service will be taken from all arms; this, to my mind, is an essential principle.

To organize this personnel we intend to create an aeronautical regiment composed of 7 companies—4 companies of aeronautical (dirigible) troops and 3 of aviation troops. Each of the latter will consist of 3 officers, 12 sergeants, and 96 corporals and privates.

I beg pardon of the Senate for entering into these details, but I think it well to give the public this precise information.

These companies will assure the work in the aeronautical centers situated at Versailles, Rheims, and Chalons.

The regiment will, besides this, comprise a variable number of sections, each composed of 1 officer, 3 sergeants, and 54 corporals and privates, stationed by section or half section at the other centers.

Our pilots will be instructed in the civil schools as well as in the military centers. Experience indicates that a pilot's career will not exceed from three to five years. Observers for aeroplanes will be formed by sending officers for tours of duty at the centers.

This elite personnel must be given special advantages. Pilots and students will receive special pay according to grade and nature of diploma held. Injuries resulting to them will be considered as wounds received in the face of the enemy, and in case of death their widows and orphans will receive the pensions accorded to those of men who fall in battle.

I am asking now for $2,200,000 for material and $200,000 for personnel, to be immediately available. Later on an equal sum will be asked for, making a total of $4,800,000 for the year. This is for aviation alone, but it must not be supposed that we intend to drop the subject of dirigibles. There are some important services which can be performed only by these engines, especially at the beginning of mobilization. It is intended, therefore, to construct 15 aerial cruisers and renew our types with the advance of progress. For dirigibles the appropriations already provide $1,000,000. For 5 more dirigibles and 5 sheds, each housing 2 balloons, $600,000 more is necessary.

We propose to build 20 cruisers of a uniform type—5 a year for four years. The sum asked for, and to be asked for this year, totals $1,600,000. This will carry out the program for dirigibles this year. It must be remembered also that we have on hand or building 15 dirigibles of various types. These are not at all uniform, varying in make and size. These are cruizers, scouts, and 1 vedette.

The above speech of the minister of war met with universal approval in Parliament. Not a dissenting voice was raised. The great peace advocate, Baron d'Estournelles de Constant congratulated the minister and made a speech of approval.

There is no doubt that the entire program, as drawn by the ministers of war and finance, will be carried out.

On the conclusion of the minister's speech, Mr. Raymond, a senator and an aviator, had some criticisms and suggestions to offer. He urged that it was not sufficient to have a large number of aeroplanes, but there must be plenty of skillful pilots to drive them. The schools of instruction do not get enough pupils. This, up to date, has been due to the lack of money; but from now on this obstacle, it would appear, will be removed.

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Mr. Raymond insisted that any officer who had shown himself unfitted to become an excellent aviator should be returned to his regiment, and that no aviation section should be commanded by an officer who is not himself a capable pilot. The commanding officers of the new aviation regiment should be men who themselves have had practical experience in the air.

To these observations the minister replied, "You are entirely right, and the law will so provide."

With regard to dirigibles, Mr. Raymond insisted upon rectifying statements in the press which misstated Germany's strength in this arm. It is asserted, he said, that we have in France 21 dirigibles. Officially it is recognized that we have only 15, and of these there are only 10 which could render serious service. The Germans have 29. These are their official figures, and I believe 20 is nearer the true effective. It is true that 10 more are being prepared. Their Zeppelins easily rise to 6,000 feet; some of them make over 40 miles an hour, while ours do not make 35. They have 25 first-class sheds.

Flying machines are a marvelous means of communication, above all, in new countries. Let us give ours, therefore, the greatest perfection attainable. They are already absolutely necessary instruments of defense; let us then freely spend whatever sums are necessary to provide them for the army and for peace use in Africa.

The whole of this debate is interesting reading to those specially devoting themselves to aviation, and I attach the full text in French to this dispatch for the possible information of the Chief Signal Officer.

AEROSTATION AND AVIATION.

[From the Revue d'Artillerie, January, 1912.]

(A reprint of that part of Mr. Clementel's report to the French Chamber which deals with the aeronautic service. Mr. Clementel occupies a position corresponding to our chairman of the House Military Committee. This report was forwarded to the General Staff by Lieut. Col. T. Bentley Mott, military attaché, Paris. Translated by Col. George P. Scriven, Signal Corps.)

PRELIMINARY.

Should the chairman of the military committee be tempted to depart from his duty of examining the credits asked for military operations during the year 1912, the subject of aerial navigation would suggest caution on his part and would deter him from asking for credits greatly in advance of the present needs. In aeronautics, reality outruns the most optimistic plans for the future. The Government asks for money; Parliament willingly votes it, but the progress of aviation is so rapid that its needs are not entirely met, and from a financial point of view our caution is made clear by the vote for supplementary credits, which is becoming the usual thing in aviation matters.

In the course of the year 1911 important trials in aviation have increased in number, but have by no means exhausted the pluck of aviators. At Madrid, Rome, La Haye, Brussels, and London Frenchmen have won successes, and their successes have been enthusiastically received. Not only has military aviation kept well to the front in the general development of new methods of locomotion, but

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it has succeeded in making a considerable amount of progress. The period of feeling the way has come to an end, and the official introduction of the new engine in military affairs is an accomplished fact.

In the month of June, 1911, members of the Senate and of the Chamber, connected with aviation affairs, made a visit to the minister of war to ask him to give our aeronautical establishment the means necessary to reach its full development with the shortest delay practicable; and the minister, recognizing the importance of the matter, concluded the interview with the important declaration that, "The war department considers that aeroplanes and dirigibles are as necessary for our national defense as guns and cannon. Aviation is a military necessity."

The development of the fourth arm of the service has been shown by the increase in the appropriations. Omitting dirigibles, which belong to a class by themselves, we find that in the budget of 1909 reference to aviation is made as a memorandum. Upon concluding the field exercises a credit of 240,000 francs was voted for the earlier experiments. In 1910, still at the end of the year, 2,000,000 francs were voted. In the year 1911 aviation drew forth 5,120,000 francs, but at the present time this sum is largely exhausted and the Government has made known its intention to ask for supplementary credits. The credit for the year 1912 rises to the sum of 7,600,000 francs.

It has heretofore been believed that aviation required but little money, but experience has demonstrated the fallacy of this opinion. The durability of apparatus and of motors is short, accidents are frequent, expenses for maintenance and repairs are considerable, and there are also expenses for oil and fuel. It is well, therefore, not to conceal the fact that aviation will weigh heavily upon our appropriation—more heavily than has been thought—and that these expenses will grow greater the more we demand of it.

Up to the present time Parliament has not hesitated to aid the fine and plucky efforts that have been made in the past, and in the future it will not refuse such supplies of money as may be needed. Up to the present time we have made advances in aviation which foreign powers will have difficulty in overtaking; but we must have a care, for they have this year set themselves seriously to the work.

Germany has erected at Doberitz a military school of aviation to which 50 officers have been attached. A station has been established at Metz, two others are proposed at Thionville and Sarrebourg, and an appropriation of 9,000,000 marks for aviation will be provided in the budget for 1912. The machines in use are of the types of Wright, Albatross, Farman, Rumpler, Grade, Dorner, and Etrich.

Austria bought, a few months ago, three machines and has arranged conditions for a meeting very similar to the one at Doberitz.

The Russian Army post at Sebastopol possesses a very flourishing school, which was opened in 1910 and already has 23 pilot officers. Twelve have taken part in maneuvers. The machines used are of the Antoinette and Bleriot types, but a meeting for the benefit of Russian constructors took place recently (in September).

The Italian Army has some 15 pilot officers and is using the Bleriot, Nieuport, Farman, and Etrich types of machines. Two have been sent to Tripoli and have already made reconnoissances of value.

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AVIATION—THE RECRUITING OF PILOTS AND METHODS OF TRAINING.

Pilots for aeroplanes are recruited from military men of all arms who show aptitude for aviation service. They are not appointed in consequence of the positions held by them, but candidates are required to send in a request to the headquarters of their arms and are then placed by authority of headquarters, in accordance with the needs of the case, at the disposition of the inspection department of the permanent branch of the aeronautical establishment. All arms furnish pilots; and the inspection branch of the aeronautical division has had the good fortune to make its selection from a wide field of choice. By a careful selection the fourth arm has become an aggregate of the courage and pluck of all the others. Upon the formation of the new corps, pilots were simply detached from their arms in order not to create in the different units of the service vacancies prejudicial to the welfare of the service itself; but the law of July 13, 1911, gave authority to place on a separate list, that will be determined each year in accordance with the financial situation, a certain number of officers and noncommissioned officers detailed in the aeronautical service. For the present year this number has been fixed at 50 officers and 50 noncommissioned officers. These figures have remained unchanged in the appropriation for 1912. Pilots are instructed at the centers of military aviation or at the civil aerodromes. In order to understand in what spirit and on what basis the instruction of our aviator corps has been planned and carried on, it is sufficient to read The Course of Instruction for Military Aviators. The author of this general method is Col. Hirschauer, working under the direction of Gen. Roques.

In the preamble we find laid out the general principles which relate chiefly to the choice of student pilots and the object of the instruction.

The handling of the aeroplane requires on the part of the pilot certain moral qualities (boldness, calmness, coolness, the spirit of joint responsibility, and discipline). The habitual practice of field sports and an acquaintance with the automobile are qualities which if not indispensable are at least advantageous. The object to be attained is to form pilots by means of thorough and methodical instruction, giving them a profound knowledge of the surroundings amidst which they are called upon to execute their evolutions, confidence in themselves and in their machines, skill sufficient to triumph over all difficulties that they may encounter, the possibility of maintaining in good condition machines and motors and even to make hasty repairs, and the habit of observation both along the route to be followed and as regards everything that relates to the information desired.

The general method of instruction is thus defined:

Instruction should be given without haste in the endeavor to fix in the pupil's mind results before passing on to new exercises. All haste is injurious and often leads to delay in the whole course of instruction. No expedition across country should be attempted before the aviator has carried out exercises of the same nature in the aerodrome. Altitudes should only be reached progressively. Those under instruction should be exercised in the aerodrome in descents from level flights, starting first from small heights and increasing them progressively. Instruction comprises four periods:

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(1) The preliminary stage, with aeronautic troops, of from two to three months' duration, in the course of which the scholar pilots receive general theoretical and practical instruction in regard to aeronautics.

(2) Detailed instruction given at a military center of aviation (or civil) and having as a guaranty the tests of the certificate of the aero club.

(3) Instruction in higher grades, given to those officers who have shown proof of special aptitude in the first two periods. This instruction is also given at the military aviation centers and has as its guaranty the certificate of the military aviator.

(4) Methodical teaching, having in view long flights and their applications to maneuvers and to war.

In the course of the preliminary stage the student pilots receive, in general, complete theoretical instruction in aeronautics and practical instruction in motors and aviation material. At the same time, in order to familiarize aviators with the atmosphere to accustom them to high altitudes and to prepare them for the difficulties of landing in open fields they are made to perform a certain number of ascents in a free balloon. The civil societies, such as the aero club, are very willing to lend their assistance to this training.

In the course of the second period officers assigned to the schools of aviation learn to fly with a biplane or a monoplane. They are at liberty to choose the machine in which they desire to be instructed, and never has any one of them been compelled to use a machine selected by another person.

At the end of the course they seek to obtain the certificate of "pilot" awarded by the aero club. At present there are 150 officers holding these certificates. Since the 15th of last February the difficulties in obtaining this certificate have been noticeably increased in order to improve the standing of pilots.

At the present time there is demanded of the candidate two trials for distance, making at each tour a closed course of at least 5 kilometers (3⅛ miles) in length without coming in contact with the ground this course to be composed of an uninterrupted series of figures 8 made by successive tours between two posts and return, the distance between posts being at most 500 meters (543 yards). The aviator is required to stop the motor before the machine touches the ground and to land within 50 meters (54 yards) at most from a point designated by him before the trial.

Trial of height consists in reaching a minimum height of 50 meters (54 yards) above point of departure. This second trial may, however, be combined with one of the first two, but the certificate of a pilot is not given to an aviator of the aerodrome who is incapable of rendering service as a military aviator. He must pass over the country in a series of flights of longer and longer duration, and must execute progressively the conditions imposed by the test for the certificate of military aviator. The requirements for this certificate are determined each year by a general permanent inspector of military aeronautics, who takes into consideration the progress made in aviation.

For the year 1911 candidates were required to be alone in a machine and to travel over three closed circuits without contact with the ground and at an extreme altitude of 300 meters (325 yards). Each circuit comprised a flight and return between two posts, the

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distance being 50 kilometers (31 miles) and the landing effected upon the ground from which departure was made. The acquisition of this certificate is the conclusion of the progressive series of minutely regulated trials, in which the aviator familiarizes himself with the apparatus and the difficulties inherent in the surroundings in which the trials are made. The duration of this instruction varies, naturally, according to the training of the candidate.

Provided with this certificate, the pilot may arrive at a higher degree of skillfulness through a methodical course of training which the course of instruction outlines in the following terms:

Reconnoissances.—When on reconnoissance duty the pilot should be directed to take direction toward a fixed point and traverse a known zone of ground and return to the point of departure. The zone to be traversed is fixed by the director of the flight, who will make as much use as possible of the maneuvers of the garrison in having the reconnoissance made. These reconnoissances are always followed by a report written upon the conclusion of the flight.

Communications.—The director of the drill orders the pilot to report at a certain fixed point. The pilot obeys the order with as little delay as possible after it is given. Having reached the ground, he returns to the point of departure, always observing, during the flight, the rules of the road.

Field operations.—Pilots operating at increasing altitudes will receive orders to endeavor to drop a heavy object upon an area on the ground which is clearly outlined. They will be trained sucessively to pass over the outline of a dirigible sketched upon the ground, whose length should be increased in proportion to the relative speed of flight. They will pass first above small captive balloons or kites and then over the forms of aeroplanes, moving along a track similar to the one at Decauville.

At the present time we have about 50 pilots who are capable of service in campaign and about 100 student pilots of the civilian aviators (called reserves). We can count effectively on about 100 pilots who can be used in mobilization. This number, however, is below our needs, but it will keep on increasing. We now possess a sufficient nucleus of officers capable of serving as masters in the art of flying, while others who aspire to enter the higher list are also numerous.

THE MILITARY TRAINING OF PILOTS.

We have studied the progress of the training of the corps of aviators and we have followed the future pilot in the course of his individual apprenticeship up to the moment when he receives his certificate, which is the official recognition of his value.

By continuous training the pilot aviator will keep himself in practice, but to be able to fly is not all. It would be a mistake to believe that every man who can fly is capable of performing the duties which fall to the lot of the military aviator.

The problem to be met with in military work consists in knowing how to acquire information and how to put this information into the hands of the commander as quickly as possible. In order to obtain useful information, it is important that the pilot should be able, in full flight, to read a map; to possess a thorough acquaintance

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with the three arms of the service; to be familiar with their formation; and to know how to follow maneuvers. This is an education in itself in tactical formations that can not be neglected.

In certain well-placed military schools, such as those at Rheims and at the camp of Chalons, it is possible to obtain practice in observing the larger units, such as brigades and divisions, in following the movements of the garrison and in evolutions. But, unfortunately, this is not the case in general, and it follows that, without checking the desire of aviators to perform sporting feats, it is well to encourage them to prepare themselves by study for their duties in time of war, and to multiply opportunities for them to train themselves, as is now done, by getting together during the favorable months of the year at the large camps of Mailly, Sissone, and Chalons, and operating units which can practice team work before the autumn maneuvers begin.

In connection with the forming of military pilots, we find in the army two theories still in existence, both defended with equal conviction. Is it necessary or is it not necessary to have military observers, and by consequence, should preference be given to a machine with one place or to machines with several places—for instance, two or three places?

Technical reasons alone should not control the problem and if, instead of arguing for this or for that machine, we consider merely the results to be obtained, the conclusion can not be in doubt. An observer in an aeroplane is necessary, for, although some happily gifted pilots may at one and the same time control their machine, even in a violent wind, and find their place on the map with precision, can observe troops and solve the momentarily changing tactical problems, a greater number are unable to carry out in a satisfactory manner duties so complex. In short, it may be said that experienced observers are necessary to permit the use under the most favorable conditions of our brilliant galaxy of civil aviators, to make an appeal in a large way for the aviation services of noncommissioned officers selected on account of their previous calling or for their special aptitudes.

It seems that observers should be recruited from officers of the general staff more especially suited to the work of reconnoissance or, lacking such officers, from officers particularly suited to this work. Their training requires a short course of instruction in the best-placed schools, such as the one at Chalons. Five or six officers of the general staff have already received special training with pilots of their own choice, and the machines operated by these officers have made their mark at maneuvers, particularly those of the sixth corps.

The war aeroplane, then, normally carries two passengers. First, the pilot, whose training is of a technical character, and, second, the observer, whose training is of a tactical character.

The object of the aeroplane is to observe and procure certain and precise information for the commanding officer. It is a contrivance for the use of an observer, and the pilot is only the daring and skillful driver of these flying machines. Pilots are not sufficient. We must bend all our efforts to the perfection of good observers. This is a matter well understood by the correspondent of the Temps, Mr. Ferdinand Mommeja, who accompanied a pilot to the camp at Chalons transformed, as he says, into a "pitiable package, carried along by

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the tempest." The pilot alone is almost nothing from a military point of view; he is at most a traveler through the air, whose utility is that of a carrier. The pilot and the observer coupled together probably combine the element which brings success to the general staff.

The public up to the present time, however, only comprehends the skill of the pilot; and it was thought that aviation had made great progress when Capt. Bellenger made a flight as far as Pau; when Lieut. Remy traveled through the air from the camp of Chalons to Besancon without deviating more than 400 meters from the prearranged itinerary; when Lieut. Fequant made, with the aid of a good wind behind him, the journey from Mourmelon de Reims at a speed of 162 kilometers (about 101 miles). Well, such is not the case. These successes are interesting, but aside from sporting events, there is a training needed for war—a work purely military which must be carried out methodically and without show. This latter work is much more important than the other.

As a matter of fact, the best officer of the general staff can not make himself an observer without training. During the course of the first ascension he will be completely dazed. The bravest will collapse with vertigo amidst the terrifying noise of the motor, the wheels, and the wind. When all traces of emotion have disappeared, it will be required of him that he fix his attention upon things which are passing with great rapidity under his eyes and to read at a glance the country over which he is passing. Experience alone will enable him to recognize objects from the height of the aeroplane and to guess that the gray worm that is crawling along beneath him means a company of infantry formed in column. The observer must train his eye and must know how to supply its deficiencies by photography. It is, then, very necessary to make sure of the close cooperation of observer and pilot by frequent drills.

We have seen how an officer becomes an aviator. More briefly, we will describe how he ceases being an aviator. After the wings which fly, let us consider the wings which close, not, however, in death. Military men detached or detailed outside of their organizations are reinstated in their arms either upon their own request, upon that of authority, because their aptitude is shown to be insufficient, or perhaps because the time has come when, according to regulations, they must assume command. In the ordinary course of events aviators only pass through the aeronautical corps, for aviation is not a career like service in the infantry or cavalry, which continues its course up to the time of retirement. This service demands a very special degree of hardihood and interest, and an officer can hardly devote more than four or five years of his life to active aviation.

REWARDS GIVEN TO PILOTS.

Compensation for the duties which are actually performed by the personnel of the military aeronautical corps have been fixed by a resolution of August 10, 1910.

The rate of compensation is as follows (per day):

Superior officers	francs	2½
Subordinate officers	do	1½
Ranking noncommissioned officers of the artillery or engineers	centimes	75
Other noncommissioned officers serving beyond their legal time of detail	do	40

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This compensation appears shabby in comparison with the amount paid by foreigners.

Here follows the system adopted in Russia. A compensation of 532 francs for each month, in which six hours is the minimum limit of flight, with a reduction of an assessment of 7/5[1] of the annuity for any year covering only 50 hours of flight. An increase of 800 francs for each pension after three years of aviation service. Every aviator hurt during a flight has the same pension as if he had been wounded in war. If he dies his widow has the right to a pension calculated at the highest rate.

We shall see that these allowances will be raised again in 1912 to the rates of 8 francs, 4 francs, and 2 francs.

Mr. Messimy, as well as his regretted predecessor, Mr. Berteaux, did not cut down this important means of encouragement for our officers engaged in aviation and their comrades of the reserve. Several have been detailed by selection out of their turn and 35 have been taken up by virtue of their position on the lists of aspirants for the Legion of Honor. It would also be just, in regard to retirement, to make every year passed in the service of aviation the same as if passed in a campaign.

Compensatory advantages should be given to men who consent to make an immense moral and physical effort, and who daily face death.

We now know about the personnel who give preference to the service of aviation; let us now examine the resources placed at their disposition; that is to say, the drill ground of aviation and the apparatus we now own.

CENTERS OF AVIATION.

At the end of 1910 there existed but one center of military aviation, the camp at Chalons. Search has been made over the whole country to find ground most suitable for the erection of new aerodromes.

The moneys allotted to these organizations are important. To the war department belongs the duty of looking out for these meets, whether voluntary or prearranged, offered by societies desirous of showing the interest they possess in aviation and in the service which they may render to the national defense.

These investigations; the formalities of acquiring land; the preparations of plans; their execution; the elaboration of the rules for flights; agreements regarding intervention should the latter occur; regulating the participation of towns or of departments, which always require somewhat long delays.

Nevertheless, up to the present time the results attained are as follows:

A successful effort has been made to acquire at Bethany, near Rheims, the land necessary for the installation of a center of aviation, which is in a fair way of being accepted. The Department of Cher has offered a subsidy of 300,000 francs for a school of aviation at D'Avor (in the course of construction). The town of Pau has granted to the State, on the moors of Pont-Long, the free use of a large territory containing 118 hectares (about 240 acres) of land, where the school will begin work at the same time.

[1] Unless this is a misprint; it is not clear.—G. P. S.

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The center of aviation at Biskra will begin work at the same time.

On the other hand, military authorities are now paying attention to the organization of aviation in the fortified places of the east, but while we are engaged in work of this kind, it is at the same time necessary to continue to instruct pilots. For this reason the war department has determined to send its scholars to the civil aerodromes for instruction. As soon as these scholars have won the certificate of the aero club, machines belonging to the State are placed at their disposal. These are placed in the hangars of the aerodrome or in sheds especially constructed for this purpose in their vicinity. Such are the conditions which have been established at the centers of aviation at Douai (Breguet), at d'Etampes (Bleriot), St. Cyr (Paulhan), and at Buc (M. Farman R. E. P.).

At Douai and at St. Cyr there exist, in addition, military workshops provided with tools for temporary repairs, of a summary but sufficient kind.

Certain criticisms have been made relative to the complications which the service of these establishments may create. Each of them is under the direction of a chief, independent of any rank or grade, who has absolute authority in all that concerns technical instruction. The commanding officers of a center of aviation have only one chief, the colonel commanding the balloon men, director of the depots of aeronautical material, with whom alone they must correspond not only in what concerns the personnel (officers and men of the squads), but in that which relates to new material for the current service.

The commanding officer of a center of aviation fixes the tour of duty, distributes the machines for instruction purposes, regulates the work of gangs of workmen. On the other hand, he keeps under his control the student pilots, notes their progress, guides them by his advice, or gives them his orders; in short, he issues material, administers details, and informs himself in regard to the maintenance and repair of machines.

In order to permit him to devote himself as much as possible to his principal duty, which is to make pilots, his administrative duties are reduced to the minimum indispensable to guard the interests of the State.

Thus it is that he is required to furnish only one monthly report. It is a printed document which is filled in and indicates briefly the state of training of the officers, their performances during the month, the condition of the material, the needs to be supplied, and the requirements to be met.

In case of accident or serious damage the commanding officers at the centers of aviation are, like any other chief of corps in the service, required to account by telegraph to the next higher chief, and to the war department.

For repairs which are not made in the Government shops, there has been arranged a system of estimates or contracts with a constructor who is to do the work in accordance with a requisition taken from a stub book which is furnished by the direction of the aeronautical supply depot. They (the commanding officers) have no accountability to maintain and no expenses to account for.

It is this, in fact, that has cut down the labor imposed upon the chiefs of military aviation schools, and no one can maintain that the latter is of such a nature as to absorb all of their active work. They

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still find time to attend to aviation and they are not contented to be merely good administrators; they are or were excellent aviators. Such men as Capts. Steve de Chaunac, Felix, and Lieuts. Princetau and Ludmann.

In addition to schools of aviation there exist schools of a purely administrative character with which they are connected; the supply depots of aeronautical material at Versailles, at the camp at Chalons and at Rheims. All three of these, in addition to this work, are intended to be used in the ordinary aerostation service (spherical balloons, dirigible balloons, and kites), and for the service of aviation, telephotography, etc.

This condition of affairs has caused several well-justified criticisms to be made. The supply depot issues reserve material and replaces the stores on hand; it thus rids the school of the administrative part of the work and seems necessary; but it would be desirable to make its organization as flexible as possible in order to avoid all delay in the repair of machines; delivery of current supplies, etc. In the centers where there coexists a school and a depot of material, the chief of the school ought to have control over the whole, with the idea of correcting minor difficulties that may result from dual prerogatives and authority.

These criticisms have been called to the attention of the general inspector of aeronautics and he has already taken steps to correct them, particularly at the camp at Chalons. It is believed advisable to make, at this place, the following observations:

There is no doubt that the State of France is the principal buyer of aeroplanes. It seems, under this condition, that the builders thereof should understand that they are not to be allowed to enter our schools of aviation, nor should civilians or officers of foreign nations who may some day find themselves in conflict with us. Unfortunate incidents have occurred which ought not to be repeated. We have asked the minister of war to introduce in his contracts for aeroplanes a clause to this effect.

MACHINES.

At the end of 1910, the war department possessed in all 32 aeroplanes; after the completion of existing contracts they will have at their disposal 174. In addition to these, negotiations are in progress for the furnishing of new machines.

Machines in use in the army are of the most varied types: Biplanes, H. Farman, M. Farman, Breguet, Sommer, Voisin, etc.; monoplanes, Bleriot, Deperdussin, Morane, Nieuport, Antoinette, R. E. P. This diversity is an inevitable evil. In existing conditions of aviation it is impossible to think of establishing a single type of aeroplane. No machine has shown itself to be so greatly superior to others as to be individually adopted.

The following is the method of procedure of the war department:

Purchases are awarded to the different constructors of machines in proportion as their former performances have drawn the attention of the military authorities to them as capable of rendering good service in war. Together they are arranged on the list of the whole budget in such a manner as to encourage the industry. Advantage is also taken of all progress that this industry may have made.

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This method is reasonable and economical. It does not act in favor of any individual, nor does it create a monopoly. To do otherwise would be as illegitimate as it would be unjust.

To attempt to stop at any one or two types of suitable machines would be to give a preference to the manufacturers of those types and this to the detriment of the finances of the State, because of the suppression of competition, and by the prejudice of aviators checking all progress.

In addition, if we refer to the results of the great trials which have taken place in France (Paris-Madrid, Paris-Rome, European circuit) it will be observed that a fairly large number of machines have shown qualities practically equal and placed them in the same class as those capable of being utilized by the army.

In the European circuit, for example, there were 40 starters, of which 27 were monoplanes and 13 biplanes. There were counted among those that reached the goal 6 monoplanes out of 27 and 3 biplanes out of 13, the first representing five different types, the latter two.

The announcement of these results fully justified the principles which guide the war department in the making of contracts, that is to say, orders placed with all qualified constructors are equally divided between the monoplanes and biplanes. The conditions imposed for acceptance are, in addition, rigorous in proportion to the progress of flying machines.

The preliminary trials are always made under the direction and at the expense of the constructors. In a general way, and especially for apparatus of a new type, there is required of the dealer that he train one or several pilots whose instruction is only considered as finished when they have successfully completed the tests required for certificate of a pilot aviator. However, it is not to be gainsaid that this diversity of machines would be of no assistance to the formation of aerial units upon mobilization.

Machines of a single type would permit more easily the replacement of spare parts in rapid repairs. This difficulty can be remedied, in part, by grouping together machines of the same model. Whatever may be their diversity, the types will not be more numerous than the squadrons to be organized.

Another very simple means of decreasing the inconvenience caused by the diversified types in use, from the point of view of the instruction of pilots, consists in adopting a uniform system of control. This improvement will permit an aviator to familiarize himself very rapidly with the control of any machine whatever. This question has been given study and has been solved to a certain extent.

The military administration has been reproached with having, at the beginning, wasted money in buying certain machines which are now useless. The exact fact is that in all four machines were ordered at the end of 1910 and delivered at the beginning of 1911. They have been recognized as dangerous and will be altered. An error of this nature, which only refers to 2 per cent of the total number of machines acquired and 3 per cent of the whole amount paid for purchases, contains nothing in itself upon which an opinion can be formed when it is considered that it occurred at the beginning of an organization as delicate as that of the service of military aviation.

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MILITARY AVIATION MEETS.

With the object of avoiding a repetition of such errors, the war department has had recourse to an ingenious method of procedure which offers all the advantages of adjusting public contracts, at the same time placing contractors in the way of creating types of aeroplanes better adapted to military interests. The war aeroplane is naturally a stable machine with a perfect motor; but, besides this, it must possess the special qualities of being able to raise considerable weights, and being capable of arising from and alighting upon land almost wholly unknown. To make progress in this direction, the permanent inspector of aeronautics has organized a meet at which the exhibition of mean speed, length of flight, altitude, and the transportation of weight form the bases. These meets took place near Reims. They are made up of two phases, the first a preliminary period, lasting throughout the whole month of October; the second, a decisive trial of machines admitted to the preliminary tests. The preliminary tests included an examination of the construction of the machine and its ability to accomplish six flights, under the control of military authority. Below is shown the program for these flights:

Flight No. 1.—To carry 300 kilograms (661 pounds) of extra weight, that is to say, weight not comprising the necessary fuel, oil, tools, extra pieces, etc., over the course from the military center of aviation at Reims to a piece of ground situated in the vicinity of Montcornet. Distance of about 45 kilometers (28 miles), the place of landing marked by plowed ground.

Flight No. 2.—To perform a flight under the same conditions as the one above, between Reims and Montcornet, the landing place, Luzerne.

Flight No. 3.—To fly under the same conditions as above, between Reims and Montcornet; place of landing, wheat stubble field.

Flight No. 4.—To execute under the same conditions as above in all that concerns the loading of the machine, the following test: The machine, starting from the aeronautic center at Reims, to fly around the obelisk situated at the intersection of the Roman Road, going from Reims to Bar-le-Duc and by the route joining Mourmelon and Bouy. Distance, 30 kilometers (19 miles). (This flight was intended to make a comparison between the actual consumption of motor fuel and the consumption announced by the contractors at the beginning of the flight. If the amount announced is lower by more than 10 per cent than the amount actually consumed, all trials undertaken must be made over again.)

Flight No. 5.—To effect a flight with a complete load of 300 kilograms (661 pounds), provisions not included. This flight consists of a test for altitude. The machine must, in order to satisfy the conditions of this trial, rise in less than 15 minutes to 500 meters (542 yards) in height.

Flight No. 6.—This is an exact repetition of the preceding.

The definite test for a flight of 300 meters (325 yards) going and returning without landing and with an extra weight of 300 kilograms (661 pounds) was made on November 13 over the course from Reims to Amiens. This test gave the competitors place in accordance with the best time made.

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On account of the very severe conditions imposed, the results of the meeting were adjudged by the military authority to be satisfactory. On September 30, 31 machines had been accepted by the commission—20 biplanes, 9 monoplanes, and 2 triplanes. On November 4 statistical tables relating to the meeting were arranged as follows:

	Total.	Monoplanes.	Biplanes.	Triplanes.
Machines presented	31	20	9	2
Machines admitted	9	3	6	2

Below is given a detailed list of the qualified machines:

	Name of maker.	Name of motor.	Horse-power.	Kind.	Pilot.
No. 1	Breguet	Gnome	100	Biplane	Moineau.
No. 3	M. Farman	Renault	70	do	Barra.
No. 7	do	do	70	do	Renaux.
No. 21	do	Gnome	100	do	Fischer.
No. 24	Savary	Labor	70	do	Frantz.
No. 29	Deperdussin	Gnome	100	Monoplane	Prevost.
No. 31	do	Anzani	80	do	Vedrines.
No. 35	Nieuport	Gnome	100	do	Weymann.
No. 13	Breguet	do	140	Biplane	Bregi.

In the course of the final tests the aviator Weymann was classed first, covering the 300 kilometers (187 miles) in 2 hours 34 minutes.

The definite classification officially confirmed by the commission in charge of the meeting is as follows:

	Motor.		Time.		Average speed.
	Make.	Horse-power.	h.	m.	Kilometers.
1. Weymann (Nieuport)	Gnome	100	2	34	116.876
2. Moineau (Breguet)	do	100	3	9	95.100
3. Prevost (Deperdussin)	do	100	3	21	89.515
4. Bregi (Breguet)	do	140	3	26	87.047
5. Fischer (H. Farman)	do	100	3	33	84.474
6. Barra (M. Farman)	Renault	70	3	56	76.196
7. Renaux (M. Farman)	do	70	4	9	72.386
8. Frantz (Savary)	Labor	70	4	28	67.210

The three first constructors won under these conditions the premiums indicated in the following table:

	Francs.
Nieuport:	
Purchase of the winning machine	100,000
Purchase of 10 machines, at 40,000 francs	400,000
Premium of 500 francs per kilometer above 60 kilometers	280,000
Total	780,000
Breguet:	
Purchase of 6 machines, at 40,000 francs	240,000
Kilometer premium	105,000
Total	345,000

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	Francs
Deperdussin:	
Purchase of 4 machines, at 40,000 francs	160,000
Kilometer premium	58,000
Total	218,000
Grand total of prizes	1,343,000

N. B.—The machines bought, in addition to the apparatus classed above, must conform to the latter and give the same speed in order to have the right to share the prizes furnished.

There was thus established a record of speed for all means of flying, which maintained for two and one-half hours an average speed of 117 kilometers (73 miles) an hour. We must not forget, however, that the machine carried its driver and 225 kilograms (496 pounds) of ballast, in order to make up the 300 kilograms (661 pounds) which it is required to transport.

Henceforth, purchases from private makers will therefore be surrounded by all desirable guarantees. The State has not yet arrived at the point of becoming a constructor of aeroplanes. However, several officers followed out in 1911 a course of instruction in the superior aeronautics school. Others will be detailed for the year 1912—that is to say, a tendency is showing itself to recruit progressively a technical personnel, susceptible of rendering service in the construction of aeroplanes. At the present time there is being organized at the different centers of aviation, service divisions for the training of men employed by the State. These are especially intended to make unexpected repairs, which form a part of the appropriation budget.

EMPLOYMENT OF THE AEROPLANE DURING THE YEAR 1911.

We will run rapidly over the many individual flights made in 1911 by our officer aviators. The formula "Military aviation" figures permanently in the newspapers and every day a new exploit is described in them. These are admirable sporting events, which show the skill acquired by pilots and their great familiarity with long aerial journeys; but what attracts our particular attention is the new plan that aviators are working out this year—a methodical study of the military use of the aeroplane.

In April there commenced the first efforts of flying by groups. In June and July there were developed over a distance of 1,000 kilometers (625 miles) real aerial maneuvers, during which twelve aviators, operating in accordance with plans previously drawn up, methodically explored the frontier of the north between Calais and Mazieres; and afterwards, under the supposition that Paris was besieged, made a reconnoissance along the lines of the Somme and the valley of the l'Oise, etc.

In July and August experiments were undertaken at the camp of Sissone, then at the camp of Chalons, by the regiments of artillery of the army corps, and by the aid of the colonel, director of the firing practice, experiments were made having as an object the employment of the aeroplane in connection with the field artillery, to uncover objectives which would with difficulty be found and to direct the fire upon these objectives. The same experiments were made at Chalons and at Verdun with the siege artillery and were followed with great interest by a number of general officers.

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It would take too much time here to note all the maneuvers or evolutions of all arms in which aviators have taken part, especially at the camp of Chalons. We must insist, however, upon noting the autumn maneuvers of the sixth and seventh corps, in the course of which our fourth arm showed its vitality and the progress that it had made from a military point of view. It is to be regretted that the maneuvers in the north were stopped; aeroplanes might have succeeded in playing a part in a setting where the distances and the effectives would have been in accordance with their abilities as a source of information, of communication, and of transmission.

The autumn maneuvers, however, have been the occasion for an effort at mobilization of our corps of pilots who are fit for service in campaign. The minister of war did not hesitate to make an appeal to the enthusiasm of the reserve aviators, about 20 of whom, among them Vedrines, Legagneux, Aubrun, Reneux, Fourny, Sommer, Helen, Martinet, Loridan, de Nieuport, etc., took their place in the aerial units. Here is the list of the pilots and of the machines taking part in the maneuvers.

Maneuvers of the seventh army corps.

[Chief of service, Capt. Felix, with Bleriot machine.]

	Machine.
First section:	
Capt. Bellenger (with a group of batteries of the nineteenth brigate)	Bleriot.
Lieut. Clavenad (with a group of batteries of the nineteenth brigade)	Do.
Lieut. Chevreau (with a group of batteries of the nineteenth brigade)	Do.
Second section:	
Capt. Echeman	Do.
Capt. de Goys	Do.
Lieut. de Malherbe	Do.
Lieut. Ducourneau	Do.
Corpl. Legagneux	Do.
Lieut. Ludmann	Do.
Lieut. Gourlez	Breguet.
Lieut. Peralda	Do.
Lieut. Miguad	Do.
Reserve Sergt. Moinau; Lieut. Davy, of the general staff, observer	Do.
Capt. Casse	H. Farman.
Lieut. Remy	Do.
Lieut. Blard	Do.
Sapper Bill	Do.
Sapper Loridan	Do.
Under Lieut. of Reserve Martinet	Do.
Lieut. Tretarre	Deperdussin.
Corpl. Aubrun	Do.
Corpl. Pascal	Do.
Reservist Tabuteau	Morane.
Reservist Vedrines	Do.

Maneuvers of the sixth army corps.

[Chief of the aviation service, Capt. Eteve (Capt. Pichot-Duclos, observer) upon Maurice Farman biplane.]

	Machine.
Lieut. Cheutin; Capt. Giraudeau, of the general staff, observer	M. Farman.
Sapper Fourny	Do.
Sapper Renaux; Capt. Bares, of the general staff, observer	Do.
Lieut. Mallfert; Lieut. Dorsemaine, of the general staff, observer	H. Farman.
Lieut. Camerman; Lieut. Boncour, of the general staff, observer	Do.
Under Lieut. Menard	Do.
Lieut. Fequant	Nieuport.
Lieut. Mallols	Do.
Vessel Ensign Delage	Do.

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As an indication of the information that is furnished and of the measure in which aeroplanes contributed to place the commands in their proper position, it would be necessary for us to submit the confidential military reports furnished to higher military authorities. We quote only a few characteristic examples relating to the maneuvers, borrowed from the sixth corps, on the Meuse, and recorded in the press.

On the 11th of September the aviators of the red army, setting out from Bar-le-Duc, located at a distance of more than 80 kilometers (50 miles) before 7 o'clock, with great precision, the column of the blue army (forty-second division) marching over the Varennes-Clermont Road, the advance guard at Clermont.

On the 17th of September the aviators of the blue army discovered after two reconnoissances the movements of the main force of the enemy's detachment passing through the forest of Maugiennes, with a view to a movement beyond.

On the 18th of September an officer of the general staff, an observer of the red army, was able to furnish after a very brief reconnoissance a detailed drawing of the situation of the blue army, the accuracy of which caused him to be given the congratulations of the commanding general of the sixth army corps.

Aviators are rigorously made to observe the rule which requires them to rise to a minimum altitude of 500 meters (542 yards). After some unavoidable groping about, the officers of the general staff have made themselves familiar with the employment of their aerial units; they have been able to give proper orders and to assure, under ordinary conditions, the rapid transmission of information.

As an example: In the recent maneuvers of the sixth army corps there could be seen many of the pilots come to ground at from 5 to 10 minute intervals at the post of the commanding officer, give to an officer of the general staff information gathered, and depart upon new missions.

If we feel scruples in regard to doing ourselves justice, let us appeal to the flattering evidence of a German naval officer, Capt. von Pustau, one of the most distinguished specialists from the other side of the Rhine in the matter of aviation, who was present at last grand maneuvers, and who made the following noteworthy remark:

> Without entering in detail regarding the deeds performed by each of the aviators, it is sufficient to note that in three cases they have rendered valuable service which would not have been otherwise rendered and that although a very strong wind was blowing which would have prevented the sailing of any dirigible whatever.

Here are his conclusions as a whole:

> These maneuvers have proved that the fourth arm of the French Army exists in fact and not in name; that it is not only capable of rendering the greatest service to friendly troops but that it will constitute a very considerable danger to the enemy. In Germany we are far from attaining these results and it will be necessary to make a great effort in work and spend a very large sum in money before we can think of giving to our staff mobile squads of aviators.

THE PROPERTIES OF THE MILITARY AEROPLANE.

After the concluding trials of aeroplanes which marked the year 1911, the latter have a right to a place in the organization of the army We will not, however, go so far as to say—with the superficial thinkers who see in the employment of this new engine the

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possibility of changing the aspect of future wars—that the aeroplanes will be given a preponderant place. Has it not been suggested to suppress the cavalry, to destroy fortifications by a stream of explosives? The aeroplane is a bird of day; it is also a bird of springtime and of summer. The final trial at the meet at Rheims, fixed for the 4th of November, could not come off until the 13th on account of the condition of the atmosphere. In our opinion the aeroplane should be used to supplement other methods of reconnoissance; it is not yet capable of replacing them all under all conditions.

The aeroplane, in the first place, from a military point of view, is a remarkable machine for observation purposes; in weather fairly clear, at an altitude between 600 and 800 meters (650 to 866 yards), an altitude which assures almost complete safety in face of small arms and guns, the aviator should be able to see the ground unroll before him, its relief but little weakened, and its smallest planimetric details showing, as well as the network of its routes, roads, and railways. There is no difficulty, with a little practice, in finding one's position; in reading the map, and of marking a position with the greatest precision. If troops happen to be present in the field of observation of an officer on reconnoissance duty, they will inevitably be uncovered, estimated, and located, whether marching in column, upon routes of travel, or deployed across fields; whether assembled, but not yet concealed beneath the coverts offered by the ground, such as woods, orchards, etc.; or whether, having arrived at a cantonment, but not yet scattered at the first snort of the motor. Let us cite a few instances:

At the present moment the aeroplane has a minimum speed of 80 kilometers (50 miles) an hour when pushing forward a reconnoissance of 100 to 125 kilometers (63 to 78 miles) in advance of the front. The information thus brought to the commanding officer, however little the machine may have meandered to either side of the general axis of march, gives the commander a knowledge of affairs over a strip of land of from 7 to 8 kilometers (4⅜ to 5 miles). In addition, the observations collected have been made one, or at the most two, hours beforehand. Doubtless it will soon be possible to transmit information instantaneously. On the 20th of July, 1911, Capt. Brenot and Lieut. Menard, while maneuvering in a biplane at an altitude of 500 meters (542 yards), near Rambouillet, succeeded in transmitting to the Eiffel Tower, a distance of 50 kilometers (30 miles), a message to the minister of war.

Let us compare to the information obtained by aviators that which can be gathered by rapid reconnoissance and by the whole uncovering system of a division of cavalry, operating over the same ground. The aviator does not pick up a mere apparent outline, but the masses of the enemy. He secures information depicting a position still correct at the time of his arrival, while the observations of the cavalry go back most frequently 24 to 48 hours before; for, if the divisions of cavalry are given the most perfect means for the transmission of information, they are at the outset merely horsemen, pursued by the enemy's patrol, and carrying to the commanding general the reports made by the officers.

What influence must unfailingly be exercised upon strategy and tactics by units of aviation which have been suitably trained as a whole? Provided with such means of obtaining information, the

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commander is in a measure able to each day locate his forces with certainty, as regards the mass of the enemy's forces; to determine from recent information the degree of preparation of his troops for a fight; and, when the enemy is at a distance, to economize his strength by reducing to a minimum the troops required for his own protection. At the moment of contact, when the detachments or advance guards of the enemy are approached, is it necessary to obstinately persist in a frontal attack instead of rapidly outflanking, when the aeroplanes can determine, in the shortest time, whether detachments are or are not supported and whether their wings are reenforced?

Let us consider an engagement covering the whole front. If it becomes necessary for the commanding officer to have information regarding the whole situation in order to fix the location of the command, to determine the extent of the position, the strength of the force occupying certain points with a dangerous number of reserves hidden from view, to obtain information regarding the wings in order to execute a flank movement, or to prepare an evolution, a biplane taking its flight from the post of the commanding officer will, in an hour at the most, allow an experienced observed to reconnoiter over a zone of from 6 to 8 kilometers (3¾ to 5 miles) in width and to a depth of 20 kilometers (12½ miles). Thus, four machines are sufficient at close intervals to look over the field of battle of our greatest fighting unit, the army corps.

A machine most valuable in reconnoissance, the aeroplane, may also render the greatest service in the transmission of orders and in joining together the larger units. The commander of the army may wish to send urgent instructions to one of his subordinates commanding a portion of the front or a large detachment on the flank whose support in the fight is expected. What messenger can be more rapid than the aeroplane when the roads in rear of the front are encumbered by columns hastening toward the battle field, by regimental trains, by parks, and convoys, when telephonic and telegraphic lines are momentarily cut, and when communication by wireless is continually interrupted?

Should the general in chief desire also to know speedily the position of his units, to be informed of their good or ill fortune, to follow the fortunes of the fighting line, an officer of his general staff will take a place behind the pilot of the aeroplane, observe, note, return, and give an account with very little delay, and with greater precision than is given by reports hastily drawn up during the fight by commanding officers whose duty requires all their faculties.

Let us now consider the aeroplane as a fighting machine, although the part it will play, from this point of view, appears very uncertain.

Shall aeroplanes be sent to attack dirigibles, after they have been furnished with an apparatus for shooting projectiles which will tear the envelope and cause the gas to explode (experiment from the Eiffel Tower in the spring of 1911)?

Are they able also to raise a sufficient weight of explosive projectiles, intended to be thrown upon railway stations, depots of material, concentrations of troops, etc.? It is still very difficult to make a decision in regard to this subject, but trials are now under way which a meet recently arranged will undoubtedly multiply and bring to a conclusion in the near future. Even at this time the Italians, in the war in Tripoli, are continuing these experiments to the hurt of their adversaries; on several occasions aviators have thrown into the Turkish camps bombs which have caused great disorder.

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AVIATION FOR THE ARTILLERY.

As a matter of fact, the aeroplane will be the most valuable auxiliary for our artillery, which is now the first in the world; our two elements of superiority are thus most fortunately brought together. For the artilleryman, to see is the prime necessity; to see in order to direct his fire and to control its effect; to see and to recognize objects, to determine their importance, and to deduce from this the value or lack of value of fighting them.

The almost exclusive use of masked fire in the French artillery already requires on the part of our commanders of batteries and groups of artillery the employment of observation towers. These towers, in spite of their insignificant height, give a view between the battery and the apparent outline of the land in relation to the battery. This is all very well against an enemy who employs direct fire and who consequently places his batteries on the apparent contour of the land, visible from his enemy's batteries, but they become inadequate when the enemy places his batteries behind crests. Now, the general tendency of European artillery is to get under cover, following the example of the French artillery.

Under these conditions, artillerymen become invisible; invisible also in the concentrations of infantry and cavalry. However, it is necessary that we succeed in seeing them if we do not desire to fire into space.

In his recent book on the Evolution of the Field Artillery, Maj. Buat writes:

> Such is the superior value of modern artillery that even when plunged into shadow, so to speak, it is able to exert all its power upon the sole condition that one man can think and observe for it.

One means only of effecting this occurs to the mind, that is to rise above the ground in order to see.

Under actual conditions, commanding officers of artillery make use of all means thrown in their way in the vicinity of their batteries; they ascend steeples, climb trees, or mount upon haycocks; but as a matter of fact there is not always a haycock, a tree, or a clock tower at their disposal. Besides this, certain men in command will not permit themselves to make use of these elevations under any conditions; besides, it most frequently happens that the height of these natural observation stations is insufficient to develop to any real extent the apparent contour of the land, as seen from the battery itself. To see above obstructions it is necessary to rise above the earth and to rise to a height of 500, 600, and sometimes 1,000 meters (542, 650, and 1,083 yards).

Where can we find a ladder of this height? It only exists in Jacob's dream. There is no other solution except to call upon the aeroplane.

Now, the experiments made in 1911 at the camp of Chalons and at Verdun by the commission organized for the practical study of the fire of siege guns and guns of position have shown that the aviator is able at the same time both to find the target and to direct the fire of batteries.

In consequence of these experiments the minister of war gave the following expression to his opinion:

> The results attained are such that it is possible to say that these machines are the most useful, if not the most indispensable, auxiliaries in the direction and control of

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artillery fire. Here, indeed, the lessons of the Turko-Italian War come in to confirm this opinion. One dispatch alone brings into prominence this double rôle of direction and control. The Italian artillery having succeeded by the aid of an aeroplane, controlled by Capt. Moizo, in marking the position of the Turkish artillery (direction), opened a heavy fire, which the aeroplane reported to be accurate and effective (control).

The results of these trials made by the artillery are of capital value to this arm and to the army in general. The use of the aeroplane with artillery, by allowing the latter to see, multiplies its power a hundredfold.

It is necessary, in consequence, to give the artillery aeroplanes; but should we go still further and create an aviation corps for the artillery? This, at all events, would be premature, under the present condition of affairs, at least.

Artillerymen do not lack good arguments, say they, since the aeroplane is an ideal observing ladder. Aviation for use of the artillery should form an integral part of the artillery itself, as absolutely as do the observing ladders, and the aviator being indispensable, it follows that he must be ready instantaneously to do his work or at least to fly whenever the chiefs of artillery judge it necessary. Can it be thought possible to call upon aviators who are concentrated in a park some distance away and placed at the disposal of the commander of an army corps? If the chiefs of artillery are obliged to pass through military channels in asking for the service of aviators, the latter will never arrive in time to be of use.

Aeroplanes, as a matter of fact, should form a part of the artillery command; they can be transported with it and be installed in close proximity. The establishment at Vincennes has constructed a contrivance on wheels for the transportation of aeroplanes. One section of three aeroplanes, mounted upon this vehicle, took part in the grand maneuvers of the east.

Entrained at Vincennes with the artillery of the eighth corps, it was detrained at Besancon for concentration with this artillery, and during the 10 days that these maneuvers lasted this section followed its artillery. Each day the colonel commanding the artillery assigned to the chief of section his place in cantonment, announced the position of the park, and gave notice as to the place where on the succeeding day an aeroplane or two should be stationed for his use. The aviator found his horse wating at the meeting place and proceeded to join the colonel and receive his orders. He remained at the colonel's disposal throughout the day, flying when necessary and making his landings in accordance with the movements of the batteries.

Aeroplanes, mounted upon their wheeled transport, are carried along with the artillery, as are any other kind of wagons belonging to this arm. So it is that the aeroplane can march everywhere with the artillery, and henceforth it will become indispensable to this arm. There is urgent need of creating "the aviation of the artillery."

Such, stated as strongly as possible, are the arguments of the artilleryman. We appreciate their value and are absolutely convinced of the importance of aviation in rendering true and effective the fire of guns; but we must remember that the aeronautic service is right when it declares that it is absolutely impossible to create at the present moment this "aviation of the artillery."

We will not, by a great deal, have at disposal in 1912 enough aeros to give each group of artillery its section of aeroplanes upon wheels;

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a thousand machines would be necessary. As long as we are awaiting the development of aviation its material and personnel must remain, therefore, attached to the army corps, and we must rely upon the general commanding the army corps to make the most skillful use of the groups of aviators placed at his disposal. Thus it is that at the maneuvers of the seventh army corps the first aeroplane section was especially assigned to the batteries of the nineteenth brigade.

Thus far we have considered that merely practical reasons based upon facts justify the development of our service of military aviation, but reasons of an ethical kind also come in to plead in its favor.

The daring and gallant feats of our officer aviators taking wing for the purpose of uncovering the movements of the enemy give our soldiers an example of incomparable value.

To sum up, the essential part played by the aeroplane, under existing conditions, is strategic reconnoissance (at long distances) or tactical reconnoissance (at short distances), aiming to determine as a whole the movements or the position of the enemy. The first object to be attained in the service of military aviation then stands out perfectly clear. A small aerial squadron must be assigned to each of our large units and to our divisions of cavalry. These aerial squadrons will be placed, like certain other units, such as companies of telegraphers or balloon men, under the direct orders of the chief of the general staff. The parts of these units must be organized in such a manner that it may be possible for them to take cover well within the reach of the commanding officer, etc. Thanks to the appropriations written into the budget for 1912, we shall be able to realize a part of this program before the end of the year, and we have seen that the formation of new centers of aviation will permit general staffs to familiarize themselves, in time of peace, with the use of aeroplanes.

THE AEROPLANE AND THE CAVALRY.

We must bring to test a very dangerous opinion that is spreading more and more amongst the public, who are often ignorant of military matters. It is frequently said that "Aeroplanes and dirigibles are marvelous instruments for reconnoissance purposes, and their powers of investigation are far superior to those of the cavalry. Let us suppress the cavalry or reduce its effective force." The time has not come to reduce the effective of this arm under the pretext that its part in battle in face of guns and the perfected small arms of our time has become insignificant, and that it is on the point of losing the only reason for its existence—the search for information.

We shall not allow the public mind to thus go astray, and we therefore assume the privilege of executing summary justice upon this opinion and of reassuring the French cavalry.

In war the cavalry has a triple part to play:

First. To procure information regarding the enemy.

Second. To protect the troops on march or against surprises, and to cover their movements.

Third. To intervene in battle and make success complete or to protect the retreat.

From one point of view, that of furnishing information regarding the enemy, dirigibles and aeroplanes may often supplement cavalry, but the important point is to determine clearly to what extent we shall

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find it necessary to employ the aeroplane as it exists at present, for it is a somewhat brutal instrument which travels at a steady speed its 200 or 300 kilometers (125 or 187 miles) and returns to its shelter.

We must remember that the machine is still incapable of hovering; that even though it were we could see nothing through a fog; that we can not even observe in violent winds; that we can not fly every day; that it is seldom, even in good weather, if it is desired to spare a very valuable personnel, that flights can be made for more than three or four hours in the morning and two or three hours in the evening.

In fact, reconnoissance made by aviation is essentially rapid; the aeroplane can only fly over its field of observation, which is not very wide, and now and again, at some place where no one is to be seen, there may be found an hour later a body of troops out of a wood or from some locality where they had been waiting for the proper moment to commence its movement.

On the other hand, a reconnoissance made by cavalry making use of both light and heavy cavalry, is characterized by a permanence of contact by day as well as by night. It has less chance of falling suddenly like the aeroplane upon masses of the enemy, but by frequent contacts with him may succeed successive degrees in determining progressively his apparent outline, if not his exact position.

Thus the aeroplane should not replace the cavalry, even in reconnoissance work; its action should be auxiliary to that of the latter and complete it.

When the enemy is at a distance, information reported by the aeroplane may give a certain amount of security; should he succeed, however, in approaching sufficiently near to be able, by a night march or by an advance of his cavalry, to come into contact with troops of the first line, it is the cavalry that, with a minimum force, will enable us to assure the protection of our cantonments; it is the cavalry which will make it possible for our columns to march out without being hindered by the demonstrations of cavalry provided with a few guns; it is this arm, in fact, which during the fight will cover the concentration of our troops when the enemy is everywhere, and when his enterprising cavalry is on the lookout for unprotected troops. How much would aeroplanes be worth in carrying out this protecting work?

As a matter of fact, we must not let ourselves be misled by progress made in technical matters; moral forces play a principal part in battle. The infantryman and the artilleryman are subject to exhaustion, to fatigue, confusion, and fright; crises occur during a fight when the nerves, having reached their maximum tension, the majority of men are prepared to rush to the front or to the rear, depending upon whether they are carried away by enthusiasim or by terror.

Spirited and well-commanded cavalry making use of its mobility may be able to effect a surprise, and finding in front of it only harmless rifles and field guns, decide the action.

Let us hope that the matter has now been well thrashed out. The use of the aeroplane or the dirigible can not bring us to the conclusion that a diminution of our cavalry is possible. We will even go further and say that it is essential to place, without delay, our cavalry, which is too small in numbers, in condition to make a good showing before the German cavalry, which does not count less than 510 squadrons upon a peace footing.

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AEROSTATION.

The war department continues the execution methodical, but prudent, of the program as a whole, decreed on the 25th of February, 1910, without asking for any other appropriation than those resulting from obligations placed prior to 1910; we say prudent, because the progress of the aeroplane demands a period for observation. Aeronautics have actually undergone an elevation which is characterized by a substitution of the heavier for the lighter-than-air machines, and the war department is observing attentively the phases of this evolution and steadily acting in accordance with it.

We are passing through a period of transition to which the fluctuations of opinion bear witness. The 2d of September, Mr. Paul Rosseau wrote in the Temps:

> If the dirigible balloon has not yet disappeared before the aeroplane, it seems that it must pass soon into the second rank while waiting until it is entirely supplanted and relegated to the domain of souvenirs.

But on the 2d of October, after the brilliant flight of the *Adjutant-Reau*, there may be read in the same journal the following:

> The most thoroughly convinced partisans of the aeroplane must, in the face of these results, admit that this engine is ready neither for night reconnoissance nor for the present utilization of the wireless, and that there is reason to imitate the examples of our neighbors of the East; that is to say, to push forward actively the development of our dirigibles without neglecting on that account the development of aeroplanes.

The opinion of technical men in regard to military aeronautics is that dirigibles, for the next few years at least, will have to play in war a well-determined part, in which nothing can take their place.

During the grand maneuvers of the east five dirigibles of different types executed maneuvers toward the Lorraine frontier. They are the military scout *Le Temps*, the *Astra-Torres*, the *Capitaine-Marchal*, the *Adjudant-Vincenot*, and the *Adjudant-Réau*.

With two of these dirigibles attempts have been made at rapid inflation by means of a new process of manufacturing hydrogen on the spot. These experiments have a capital interest, for, to be in condition to undertake useful exploration, aerial cruisers must be ready to leave the fortified positions of the east the day following mobilization. This condition is realized. On the 7th of September, by means of a wagon with hydrolite, the dirigible *Le Temps* was inflated in two and one-quarter hours, during which time there was produced 2,700 cubic meters (95,353 cubic feet) of pure hydrogen. The wagon with hydrolite only weighed 2,400 kilograms (5,280 pounds), and took the place of four carriages carrying tubes weighing 12 tons. This method of inflation has an evident superiority over all other methods of procedure previously known.

A trial was also conducted in the early days of September with the process of preparing hydrogen called silicol, intended for use in the fixed workshops of the fortresses. The *Capitaine-Marchal*, with a capacity of 10,400 cubic meters (367,286 cubic feet), was inflated in 16 hours, the apparatus having realized an uninterrupted output of 650 cubic meters (22,955 cubic feet) to the hour.

Thus it is to-day known that with hydrogen generated on the spot we are able to inflate in a few hours the largest dirigible, an operation which up to the present time required weeks. Unfortunately the hitching of the car to the balloon and the adjustment of the ropes

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suspending the car can not be arranged in as short a time as the inflation. There is, then, progress to be made in this matter.

Difficult reconnoissances made by three of the dirigibles have shown a new use for the dirigible in night flights and in the use of the wireless telegraph.

Night reconnoissances are forbidden to aeroplanes, for which it is indispensable to see clearly in order to come to ground. In case of an accident to the motor, a dirigible is at most transformed into a free balloon. The grand maneuvers of the east have allowed experiments to be made in a tactical problem, which consisted in profiting by the night to pass over a zone to be reconnoitered. On the 12th of September the *Astra-Torres*, starting out from Belfort in the dead of night and in a strong east wind, passed over Vessoul, dropped at the place indicated a bag of dispatches that it had been charged to deliver, and returned to Belfort without having been perceived. The following night it made a similar reconnoissance in another direction. The *Adjudant-Réau*, starting out from Paris, kept in the air for 21 hours and made a journey of 850 kilometers (531 miles). The fort at Verdun, though warned of its passage, did not succeed in discovering it, notwithstanding the employment of searchlight. It was perceived in the distance 35 minutes afterwards.

In matters that concern the wireless telegraph the flight of the *Adjudant-Vincenot* has established the fact that it is possible, thanks to a mast installed on board, to remain in constant communication with the Eiffel Tower and to keep the minister of war in touch with its observations as they were made.

This service of the dirigible is a reason for not abandoning the machines possessed by us, which are valuable for reconnoissance. There is no longer question of creating a large fleet, but we should at all events maintain in a condition, as nearly as possible perfect, the number of scouts and of cruisers strictly necessary. The units existing and ready for service are, besides the three school dirigibles, four dirigibles belonging to the active service: *Le Temps*, *Capitaine-Marchal*, *Adjudant-Vincenot*, and the *Adjudant-Réau*. At the end of the year 1912, in consequence of the successful finish of the program undertaken and of the use of the money appropriated for them, our army will have at its disposal 11 dirigibles, of which 8 are cruisers and 3 scouts. In the four great fortified places of the east the installation of a complete harbor of refuge, comprising two balloons, is being installed.

CLEMENTAL, *Deputy,*
Chairman of the Military Committee.
(Introducer of the war budget).

AERONAUTICS IN FRANCE AND ABROAD.

[Extract from the speech of M. Adolphe Girod, Chamber of Deputies of France, Feb. 12, 1912, concerning bill No. 1655.]

After having glanced rapidly at the service which aeronautics may render us in case of war, let us examine the condition of this service in France and abroad. In France, the decree of the 22d of October, 1910, created a "permanent school of inspection of military aero-

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nautics intrusted to a general officer and seconded by the necessary personnel of officers and employees, and given the following powers:"

1. To follow the progress and resources of aeronautics in general and to study the application to military requirements.

2. To exercise authority over the troops, aeronautical establishments, schools, and depots of military aeronautics, as well as over the personnel of all arms attached to this service.

In an article which appeared the 1st of February in the Revue des Deux-Mondes, Col. Renard, examining in detail the outcry against this school of inspection, says, "What are the criticisms?" It is difficult to say exactly, for the most contradictory statements have been made against it. At one time, in fact, it is accused of wasting in construction of useless dirigibles money which could have been much better employed in making aeroplanes. At another time, it is accused of neglecting dirigibles and allowing Germany and Italy to take precedence over us. In matters relating to aeroplanes it is reproached with not having a uniform model or with not being able to decide upon one-place or two-place machines. At another time, on the contrary, its systematic preference for the latter type is deplored. This preference is well demonstrated, according to the writer, by the military meeting at Reims, where attention was paid only to what may be called "aviation heavyweights." The inspection corps is also accused of not having sufficiently brought out the importance of our aviation as much from the viewpoint of the number of machines as from that of pilots. But in addition to these reproaches, which are of a technical kind, there has been formulated a graver accusation, which is, that the general permanent inspection corps for military aeronautics is completely swallowed up by the engineers; its chief, in fact, comes from that arm, and it is the same with the large number of officers and men of the troops who are attached to it. When this new service was created it was loudly proclaimed that aviation was not to be a monopoly for any arm; that, in a matter so new, it was necessary to call upon all who wished it well. Notwithstanding these fine words, the permanent inspection corps of aeronautics is only a deceitful title, and it is always the engineers who keep a strong hand upon our aerial fleet.

Now, recalling how this arm in these latter years seemed to take pleasure in impeding the progress of our military aeronautics, everything may be feared for the future when is seen in the corps, even to-day, mistrust of the destinies of our aerial fleet.

Gentlemen, we know well the patriotic efforts of Gen. Roques and the intelligent and devoted assistance that Cols. Hirschauer and Estienne has given to the subject; but it is not the less true that in consequence of the failure of the appropriation and necessary feeling of the way which must have places in so complex an undertaking our fourth arm has appeared to be really in peril. As some people say, at the commencement of the year 1912, at a military school of aviation, provided for 11 officers who had received the superior military certificate, 9 aviator officers who had received the certificate of aero nautics, of whom 3 held the superior certificate, there was only 1 machine in good condition; that 12 machines were being repaired or were to be repaired, which for more than two very rainy months had been placed under insufficient shelter and owing to a lack of available mechanicians had been badly cared for: that the receipt of machines and of repair parts was not given the proper guaranties; that avia-

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tion has nowhere been carried out with a view to war; that it is actually of little value in case of mobilization; that of 234 existing machines there are not 30 capable of going as far as the frontier; that pilots have not received any military preparation, have not become acquainted with any secteur, and have no touch with the commanding officers of the armies; that the auxiliary matériel, tractors, etc., for a long time under consideration, are totally absent; finally, that a certain amount of discouragement exists among the aviators.

I am certain that Mr. Millerand, who has shown great willingness to talk with aviators, has at this moment entirely made up his mind in regard to the importance of these complaints and that he will give to them the importance that they deserve. As a matter of fact, we have at our disposal seven military dirigibles—Col. Renard, Adjudant Vincenot, Adjudant Reau, Capt. Ferber, Temps, Selle-de Beauchamps, and the Ville-de-Paris. The central depot is at Chalais-Meudon, and the different points for alighting are Verdun, Toul, Epinal, and Belfort, where hangars exist.

We possess 8 schools of military aviation—Buc, St.-Cyr, la Vidamee, near Pontoise, Pau, Reims, the camp and Chalons, Douai, and Etampes, of which 6 are under the control of private interests.

At Meudon is found the establishment for matériel for military aeronautics which is charged with the purchase, construction, repairs, and maintenance of the matériel for heavier and lighter-than-air machines, and at Vincennes is an establishment which is especially concerned with the service that the aeroplane may render to the artillery.

Very fortunately the movement in favor of aeronautics has arrived at such a point as to be beyond question. The Aero Club lends its cooperation to the ministry of war; the Chamber of Aeronautic Industries assists in technical researches. The Aerial National League, presided over by an eminent chief, who is the distinguished Gen. de Lacroix, former general in chief, is engaged in studying the application of aeronautics to the needs of the army. The university has adopted a propagandist method by means of conferences regarding military aviation given to scholars of the different lyceums of Paris. Civil and military aviators are being drawn together.

In addition, aviation is gaining a foothold in our colonies and serious study is being given to the creation of many centers of aviation, even in the most desert regions.

Throughout all the cities and communes of France are found the same encouraging signs. Allow me to cite for your benefit certain extracts from the deliberations of the municipal council of the commune of St.-Germain-du-Bois (Saone at Loire):

The year 1911 and the 28th day of December the council brought together under the presidency of M. Caucal, mayor, being present * * *, etc. The municipal council * * * believing, on the other hand, that it is of the highest importance that France should conserve the mastery of the air, a mastery acquired by so many heroes of aviation dead upon the field of honor, and believing in addition that the seven millions voted by Parliament for the purpose of maintenance, organization, repair, and increase of our aerial fleet for the year 1912 is notoriously insufficient, and that the seven millions are already absorbed by the creation of camps of aviation, hangars, repairs to old apparatus, etc., declares its vote:

1. That a subscription from each commune of France should be asked.
2. That the subvention solicited should be fixed at the beginning in proportion to the number of inhabitants and to the resources of the commune.

The council, considering also that there is not a commune in France which does not expend each year on an average of 0 franc 10 for each inhabitant on the occa-

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sions of patronal festivals, public rejoicings, the national holiday, etc., declares its vote that each expenditure should be willingly consented to by the 36,000 communes of France, who would thus give a subvention to our army of nearly 4,000,000 francs, a sum which should be exclusively reserved for the purchase of war aeroplanes for the defense of the fatherland and in the supreme interests of universal peace.

This vote is made unanimously.

P. C. C. Le Maire, *Caucal.*

It is consoling for us to see our population struck with astonishment by the results obtained by aviation in the year 1911.

The 1st and 2d of February, Capt. Bellanger went from Paris to Pau, 690 kilometers (428 miles) in 7 hours and 5 minutes of actual flight. The machine used was a Bleriot.

The unfortunate Lieut. Bogue, after a flight of 205 kilometers (127 miles) over the sea.

Eugene Renaux and Senouque won the Michelin prize, Paris to Puy-de-Dome.

Brequet carried 12 passengers at an average speed of 95 kilometers (59 miles) an hour.

Weymann won the Gordon-Bennett cup in a flight of 150 kilometers (93 miles) in 1 hour 11 minutes 30 seconds.

Helen, second, won the Michelin cup by flying 1,252 kilometers (777 miles) 800 kilometers (492 miles) in 14 hours 7 minutes during the day, with stops.

Bregi traveled from Casablanca to Fez with 1 passenger.

Garros ascended to a height of 4,252 meters (4,606 yards).

Prevost, with 1 passenger, rose to a height of 3,000 meters (3,250 yards).

Paris to Madrid gave victory to Vedrines.

Paris-Rome and the European circuit gave victory to Beaumont.

At the military meeting, when the conditions required 2 passengers, 300 kilograms (661 pounds), 300 kilometers (186 miles), without stops, Weymann won with a second of 117 kilometers (72 miles) an hour.

Fourney kept in the air 11 hours and 1 minute without descending.

Gobe flew 740 kilometers (454 miles), 250 kilometers (155 miles), in 8 hours 16 minutes.

Our dirigible, *The Adjutant Reau*, remained 21 hours 20 minutes in the air, traveling nearly 1,000 kilometers (621 miles) over an itinerary passing through Issy, Paris, Epernay, Chalons, Verdun, Toul, Epinal, Remiremont, Epinal, Vesoul, Langres, Troyes, Provins, Issy.

Are not these facts most instructive? And should we hesitate an instant to advance along the way of glory and of safety, so well marked out?

MACHINES.

What kind of machines are to be given to the aeronautical service? At present it is supplied with captive balloons, called the field balloon; dirigibles of different types; aeroplanes of various models. Let us examine each of these in turn.

Field balloons.—Up to more recent years information regarding positions and the movements of the enemy's troops have, so far as concerns aeronautics, been required from captive balloons, called field balloons. This balloon, with a capacity of 560 cubic meters, is

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able to raise an aeronaut to a maximum height of 1,000 meters and two aeronauts to a height of 600 meters, when the wind is light. As soon as the wind reaches medium velocity these altitudes decrease rapidly on account of the slope of the anchoring cable. Indeed, it may be conceded that in winds of 20 meters per second ascension or observation is impossible.

In addition, on account of its vulnerability to the fire of artillery, the balloon is compelled to keep at a distance of 4 kilometers at least from the enemy's batteries. It is an acknowledged fact amongst military men that in maneuvers the field balloon has never been used in a running fashion, and that most frequently it has served to indicate the true "frichti" (suspension?). If, on the other hand, it is remembered that the field balloon requires for its work some 20 wagons and a numerous personnel; if we also recollect the slowness of its march in consequence of obstacles frequently met on the roads—the telegraph wires, trees, power cables—and not forgetting the difficulties of transport, when the wind blows, however little, nor the fact that frequently the balloon must be deflated in order to be inflated on the spot where it is to be used, we easily comprehend the discredit into which this machine has fallen for several years past. It is preserved only as a makeshift while awaiting the kings of the air. However much respect we may have for the captive balloon, we can not truthfully say of it that it is a powerful defensive weapon, well in its plan in the modern field of battle.

The dirigible.—The advantages of the dirigible are its regulated speed, which allows the taking of photographs; ready observation with field glasses; relatively well regulated course; facilities for carrying passengers; installation of the wireless, permitting a commanding officer to be given information at once; night flights; relative comfort; a sensitiveness to relatively slight eddies in the atmosphere; the lifting of rather heavy weights; a considerable length of flight.

The disadvantages are its high cost—nearly half a million francs—that is to say, the cost of 20 aeroplanes; greater sensitiveness to the wind than aeroplanes; the necessity for costly hangars; a relatively great vulnerability; and the necessity for a comparatively large personnel for maneuver purposes.

The well-informed Col. Renard, who was the real originator of aeronautics, says that a dirigible having a speed of 30 kilometers an hour can travel an average of 138 days per year, 298 days per year at a speed of 45 kilometers, and 351 days at a speed of 72 kilometers.

There exist different types of dirigibles. The rigid have considerable speed. Besides the addition of tight bulkheads allows repair to be made with relative speed.

The flexible are inflated and placed under shelter with ease. The semirigid have the qualities of both of the preceding. Some, like the *Zodiac*, are mounted or dismounted to follow the troops.

The aeroplane.—Advantages: The aeroplane possesses the main qualities of a machine for defense and for attack; it has speed (average 100 kilometers); mobility; small visibility and vulnerability; can be employed at all times (sic); a relative wide radius of action, 150 kilometers going and coming.

Disadvantages: The difficulty of observation; the actual impossibility of slackening speed; the difficulty of connecting with the starting place by means of the wireless (the maximum result obtained

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is 50 kilometers); the necessity for a clear view; the habit of observing from a height to objects below.

Independently of the model monoplane or biplane we may distinguish between one-place aeroplanes and those having two places. One-place machines are lighter and swifter, two-place machines lend themselves more readily to observation purposes. In consequence of the division of the work between the pilot who guides the machine and the observer who takes notes and transmits his radio messages, the fatigue is less great. Finally we have the three-place machine, which allows projectiles to be carried.

The French Maneuvers, 1911.

[From Lieut. Col. T. B. Mott, F. A., military attaché, Paris, France, Sept. 22, 1911.]

It was originally planned to have the grandes maneuvers in the north of France, using the first and sixth army corps complete, two divisions of cavalry and two infantry brigades. This plan was renounced on account of the prevalence of foot and mouth disease in the region selected, and foreign officers were invited to attend the maneuvers of the seventh corps near Vesoul on the eastern frontier. Owing to the strained political situation between France and Germany, it was widely intimated by irresponsible parties that the change was due to the possibility of war and the desire of the French Government to have within easy reach of Belfort a mobilized corps and a division of cavalry. There are several reasons for attaching little importance to these assertions.

The troops taking part in the maneuvers as held were the seventh corps complete (this being a frontier corps has three divisions), the eighth division of cavalry (four regiments), two provisional infantry brigades, and one brigade of cavalry.

The operations we witnessed took place on September 11, 12, and 13.

A detailed account of each day's operations with maps to accompany will be forwarded in the course of a few weeks, in order to have on file for reference, the scheme of operations and the movements made by each side.

It may be well to state here that the opportunities for useful observation on my part were considerably abridged this year by the requirement, understood to have emanated from the minister of war, that all foreign officers should move about in groups accompanied by French staff officers. We were not allowed to ask questions of officers with the troops, but had to apply for all information to the staff officers accompanying us.

It has been my custom to select each year some definite object for study and follow it to the exclusion of all general movements, which, after all, are beyond the reach of a single observer. In 1909 the artillery claimed my whole attention; in 1910, the question of supply. This year I had hoped to study the use of aeroplanes and, as seemed possible, at the same time, the infantry attack. This purpose was largely defeated by the arrangements just referred to.

I had secured "cartes de circulation" for Lieut. Col. George Bell, jr., Capts. Newbold, Fitch, and Comminsky, and was able to furnish to

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these officers the plans and orders for each day's operations and maps to accompany. These officers were less hampered than I was, and they undoubtedly saw much that was useful and instructive to them. They expressed themselves as greatly pleased with what they had seen. They had an automobile and were able to quickly reach any place that offered interest.

This experience leads me to suggest that it may now be possible to give practical effect to the recommendations contained in my No. 978 of September 23, 1909, concerning our officers who find themselves abroad in September who desire to witness informally maneuvers of European countries. The chief, W. C. D., approved the recommendations contained in this dispatch, but wrote me (in 1909) that for the present it was not practical to give them effect. It might be possible at this time to reopen the subject.

This year, for the first time in the history of armies, aeroplanes were assigned to corps commanders as a normal part of their force, and they were used by them for the purpose of obtaining specified information concerning their opponents. I had the good fortune to be present when Gen. Bonneau, commanding the seventh corps, received the report of one of his aviators and sent him off again to get exact information concerning the force holding a village against which he was about to order a turning movement.

This aviator was an observer in a Breguet aeroplane carrying three persons. His report was a model of concise information as to the location of the enemy's batteries in position and of the march of his columns. He had marked on his map these locations, and in a few minutes the corps commander was able to modify or confirm the dispositions for battle he had already made.

For the division maneuvers, which took place before our arrival, the Bleriot group, commanded by Capt. Bellenger, was attached to the artillery to continue the experiments which have been going on this summer at the Camp of Chalons to determine the best method of using aeroplanes for observing artillery fire. When the maneuvers of corps against corps began, the following assignment was made:

First group to the western army, camped at Vesoul: 2 Bleriots, 3 Henri Farmans, 2 Deperdussins or Moranes.

Second group to the eastern army, camped at Hericourt: Same composition as first group.

Third group (Capt. Bellenger), to be used by the corps artillery of the eastern army: 3 Bleriots.

Fourth group, at the disposal of the director of maneuvers: 1 Bleriot, 1 Breguet, 1 Deperdussin.

Officer aviators of the active army were in principle employed for reconnoissance; reservist aviators (really civilian volunteers), as agents of communications, couriers, etc.

A general officer or an artillery force having aeroplanes at its disposal selected a suitable landing place and there spread out a white cotton sheet, about 10 by 20 feet, to catch the eye of the descending aviator and indicate the best place to land.

The details of the aviation service as performed at the maneuvers are not given out by the military authorities at present, but later on I believe that some of these details will become available, at least through the aeroplane constructors and their military pupils. This reserve may be the result of a settled policy recently decided upon or may ensue from the present strained political situation between France and Germany.

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Meanwhile the organization of each aviation group and of each aviation unit has begun to take sensible form, as evinced by the arrangements seen at this year's maneuvers. These are not temporary or haphazard, but show the result of a year's study on the part of Gen. Roques and his assistants. This officer was last year designated in supreme control of all air work in the army, given assistance, money, and backing, and his whole time has been devoted ever since to this special work.

We therefore find ourselves with a new military term, the "field aviation section," which means several aviation units, with all the men and material necessary to transport them, camp them, supply and repair them, and use them in the air. Each section was composed this year of three or four aeroplanes. This may be a permanent arrangement or only experimental. The machines of each section were, as far as possible, of the same make. Each field section was divided into three échelons:

First échelon: The aeroplanes. Their trucks for transport by road. Their "tractors" or traction automobiles for hauling the aeroplane trucks and transporting the crew.

Second échelon: The freight automobiles, containing spare parts of all kinds and reserve supplies.

Third échelon: Repair-shop automobile.

Let us take up each échelon in order. Each aeroplane arrives at the scene of operations by the air road or else in its truck. In any case, the truck arrives hauled by its tractor.

Camp is made and the aeroplane is ready for work. The material carried on the tractor now comes into play.

Each tractor carries the crew of its aeroplane—six men. In front, behind the driver, is folded the tent which houses the aeroplane and the men.

On the right of the tractor, over the wheels, is a box containing extra propeller blades; on the left are carried tent poles, pins, and uprights. In various receptacles are stored the tools and spare parts most frequently needed, enough oil and gasoline for a 375-mile flight, a litter, and surgical material. The tractor has a speed of 25 miles an hour.

This échelon corresponds to the combat train of a battery of artillery. It would probably camp near corps headquarters. When the corps makes a move the first échelon accompanies it. The aeroplane travels by air or else is hauled, packed in its truck, by the tractor, or else its wings may be folded and the aeroplane hauled directly on its own wheels. This is especially easy with the Bleriot and Breguet models. Ordinarily the aeroplane moves by air route; but if injured, or the weather is too bad, it has to be hauled in its truck or else on its own wheels by the tractor.

The second échelon consists of automobile freight wagons containing a store of spare parts and material, motors, wings, etc., permitting serious repairs to be made to badly damaged machines. There is also a large supply of oil and gasoline. These wagons are heavier and slower than those of the first échelon. The principle has been thus far laid down that two of these wagons should be supplied for each section; i. e., for three or four aeroplanes. Of course, each aeroplane has its own truck and tractor. If the aviation section moves, its first échelon would go with the combat trains in the

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normal case; the second échelon moves with the regimental trains and joins the first échelon at night.

The third échelon consists of a workshop on wheels, with automobile traction. There is a forge, tools, and material for repairs to frames or motors. This wagon has an electric-light plant, enabling work to be done at night. It has three searchlights of 3,000 candle-power each, recently constructed for this very purpose. They are used to light the aviation park at night and give light for repair work, and also to throw beams, colored and white, in the air as signals to aviators who may be still in the air and seeking to land. These signals lead the aviators to their park, and the searchlights illustrate the landing area.

Five field aviation sections constituted as above described have so far been employed. All of them were used this month in the field, during the maneuvers of the sixth corps (2 sections) and of the seventh corps (3 sections). These sections were several times moved during the course of the maneuvers, camping at Lure, again at Villiersexel and at Hericourt, as the necessities of the operations dictated.

The system of selecting a camping place was for an aeroplane to circle about and reconnoiter a good field with suitable access by roads. The aviator landed and finished his reconnoissance on foot; he then flew off and brought up the rest of the section that could move by air, indicating on the map to the second and third echelons the camping place. These moved by road, reaching the camping place, set up the tents, and were ready for repair work in case of need, or to shelter the aeroplanes when night came.

Capt. Bellenger's section having been specially charged with the problem of aiding the artillery, as we have seen, made use of a different system of transport. As the automobile tractors could not move across country and thus follow the artillery, a limber was so arranged as to haul behind it a van which carried the tent (specially light) and accessories, spare parts, and means of making repairs.

Six horses hauled the limber and its van. The van was arranged to hold the aeroplane when dissembled, various spare parts and tools, and a light tent (400 pounds). The weight behind the team was about 4,500 pounds and the first echelon could therefore go across field and camp alongside the artillery, and in general accompany the latter as part of its train.

The second and third echelon of this special artillery section have not yet been designed.

This artillery aviation section worked in conjunction with the corps artillery of the eastern army, and while the absence of projectiles made the observation of fire by aeroplane only theoretical, this section did reconnoiter and locate the hostile batteries, and at the camp at Chalos it had already been employed in the actual observance of fire with real shell. The results of this last named work is stated to be more than satisfactory, but no details are obtainable.

Amongst the things experimented with was an acetylene lamp for throwing vertical rays, to guide aviators and to signal to them.

There is as yet nothing sufficiently definite to be worth recording in what concerns the relative value of one-place and two-place machines for reconnoissance work. The official competition which begins October 1 at Rheims, instituted by the War Department, for

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the selection of the best military aeroplane, should furnish some decisive opinions. The best constructor and the best pilots will doubtless be present at this competition, and Gen. Roques, some of his assistants, and several well known scientists will be on the jury. The official opinion seems more and more in favor of two-place machines, though as related in a previous report on this special point, many aviators declare that one man can do all the work and save that much weight.

Breguet is building three and four place machines, and one of the former did good work during the maneuvers.

A brief account of a few definite problems solved by aviators during the maneuvers may prove more interesting than generalities. On September 9 Lieut. Chevreau made four reconnoissances in quick succession. On one occasion, noting a counterattack in course of preparation on the right flank, he flew at once to the vicinity of the nearest brigade headquarters, landed, borrowed a sergeant's horse, and galloped to the general to give him the information. Measures were taken in time to ward the blow.

On September 11, at 6.30 a. m., an aviator received orders as follows: Reconnoiter Triancourt and see if it is held by the enemy. Reconnoiter the strength, composition, and direction of march of the enemy's force reported last night as in the region Vilosnes, Cuisy, Montfaucon.

The officer receiving this order returned at 8.40 a. m., after traveling 100 miles at about 1,500 feet altitude, and at once gave to the commanding general the following memorandum with a sketch:

6.30 a. m.—Saw our division of cavalry halted south of Massenge wood.
6.35. Passed Triancourt; nothing in or around it.
7.10. A regiment of infantry arriving at Clermont coming from Varennes or from the north.
7.20. Montfaucon; nothing there.
7.40. Regimental trains leaving Cuisy with small escort, moving toward Varennes.
7.50. Regimental trains entering Montzeville, coming from Chattancourt.
8.00. Dombasles; large collection of regimental trains.
8.18. Enemy's cavalry division assembled 1 mile southeast of Evres.

After the maneuvers, five 2-place Farman biplanes flew by order to Damvilliers, where they landed, were aligned, and inspected by the minister of war. This over, they all started off for their station at Verdun.

There were no wireless outfits on the aeroplanes used at the maneuvers. The military press reported in August successful experiments made at St. Cyr with a wireless outfit devised by Lieut. Menard, a pilot, and Capt. Brenot, of the enigneers. These two officers, at a height of 1,500 feet, sent and received messages to the Eiffel Tower, 30 miles away, without difficulty.

It may be added here that no use was made of dirigibles at the maneuvers we attended, though evolutions of dirigibles took place at other maneuvers. The new *Adjudant Reau* left Paris one morning, sailed to Belfort on the German frontier, and returned to Paris at 2.30 p. m. without landing. It was in the air 21 hours.

The above notes will indicate the great progress which has been made in the last 12 months in the practical application of aeroplanes to war and in the organization of the service on a practical basis.

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The machines are now really independent of any base or park; they can accompany armies wherever artillery can, and their repair, supply, and protection from weather are assured.

Mr. Klotz, the minister of finance, has already had the army estimates for the year 1912 printed and distributed to the finance committees of parliament. It is interesting to note that nearly $1,000,000 are allotted to the "extension of the aeronautical service."

THE FRENCH COMPETITION FOR MILITARY AEROPLANES, NOVEMBER 10, 1911.

About a year ago the French war department announced the conditions of a competition for military aeroplanes to be held on a war department flying ground in October, 1911. A board was appointed to draw up the conditions of the contest and to supervise it when held. This board was composed as follows:

Gen. Rocques, president; Reymond, senator; Painlevé, member of the Institute; Col. Bouttieaux; Col. Espitallier; Col. Estienne; Lecornu, inspector general of mines; Marchis, professor of aviation at the Sorbonne; Maurain, director of the Aerotechnic Institute (founded by Mr. Henry Geutsch de la Meurthe); Quinton, president of the Ligue Nationale Aeronautique; Maj. Paul Renard; Maj. Roche, director of the Aeronautic College; Soreau, president of aviation of the Aero Club of France, timekeeper; Mr. Sautin, timekeeper of the Aero Club of France.

There will be found attached hereto pages from the Aerophile containing very complete details as to the competing machines and their performances. The body of this report contains a summary of these details with references to the various pages of the French text annexed, where more complete details can be found if desired.

GENERAL SUMMARY OF CONDITIONS REQUIRED.

[P. 452, second column.]

Seven conditions are required of the apparatus, viz:

(*a*) To be of French construction, including the motor.

(*b*) To make 300 kilometers in closed circuit, without stopping.

(*c*) To be able to carry on this flight 300 kilograms of actual weight, not including consumable material (oil, gasoline, water, etc.) required to cover the distance.

(*d*) To have three seats.

(*e*) To have an actual speed of at least 60 kilometers an hour.

(*f*) To be able to land on ploughed land, clover, pasture land, stubble, and to leave again afterwards.

(*g*) To be easily transportable by road, rail, etc., and easily and rapidly assembled and adjusted.

In addition, as desirable qualities: Control gear to be in duplicate; to be able to rise by means provided on board; to have before the observer the largest possible field.

SUMMARY OF FLIGHTS REQUIRED.

[P. 452, second column; p. xiv, first and second columns; p. xv, first column.]

NOTE.—The final competitive test of a 300-kilometer flight to be from Rheims to Amiens and return, without stop, and the competitor making the best speed over this course is to be considered as the winner of the aviation competition.

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The tests comprised two series:

1. The elimination trials consisting of:

(*a*) Three flights, with a load of 300 kilograms and full supplies, from a given point to a fixed landing place. After these flights the machines must again rise in order to prove that they are able to start again.

(*b*) One flight with full load, returning to the starting point without stop, at a speed of at least 60 kilometers an hour.

(*c*) Two altitude flights with full load. The machines shall rise to a height of 500 meters above the ground in less than 15 minutes.

2. The final trial consisting of:

(*a*) A flight of 300 kilometers with full load of 300 kilograms. The first prize will be awarded to the constructor making the flight in the best time.

Competitors can make all repairs, change motor, and even use a new apparatus during the preliminary trials and without leaving the aviation field.

The program of the different flights required was as follows:

1. The three flights to be made with full load of 300 kilograms, with supplies complete, on courses terminating at landing places chosen under the following conditions:

First flight.—Departure from the military aerodrome at Rheims, landing on the field situated at the intersection of the national road No. 46, from Marie to Montcornet with the road connecting the town of Bois-les-Dizy with Chaoursee-en-Thierache. Distance, 45 kilometers approximately. This field is composed of ploughed land; its dimensions are 400 by 170 meters.

Second flight.—Departure from the military aerodrome, landing on a field situated at 400 meters about to the south of the preceding. Dimensions of the landing ground, 200 by 100 meters.

Third flight.—Departure from the military aerodrome at Rheims, landing on a field situated to the west of the road from the town to Bois-les-Dizy to Chaoursee-en-Thierache, at about 200 meters to the south of the national route from Laon to Montcornet. This field consists of oat stubble and measures 250 by 110 meters. The three flights terminating at the above-mentioned fields will be effected by each machine in the order given above. Each landing on one of the fields will be followed by a departure, a flight of several minutes, and a second landing on the same field. Each of the fields will be indicated by two masts with flags, distant about 100 meters and connected by a whitewashed stripe, 2 meters wide, traced on the ground. This line will be perpendicular to the greatest dimension of the field. The aeroplanes will pass between the two masts, either in flight or rolling, it being fully understood that they will touch ground, on landing, on the field indicated and that they will take their departure from the same field. After each of these flights, the machine will be brought back to the point of departure (aerodrome at Rheims) by land or rail. For the performance of these three flights, and to comply with the conditions of the program, the constructors will themselves determine the quantity of oil and gasoline required to cover the 300 kilometers and they will carry that amount.

The flight to determine if the machines are capable of 60 kilometers per hour, with full load of 300 kilograms and with supplies complete, will be made from the military aerodrome at Rheims to the obelisk

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situated at the intersection of the Roman road from Rheims to Bar-le-Duc, with the road connecting Mourmelon-le-Grand to Bouy (distance 30 kilometers), and return to Rheims.

The timekeepers at the obelisk will time the two passages of the aeroplane, in a determined vertical plane passing by the obelisk; the actual speed will be estimated by taking the average of the speeds coming and returning. Advantage will be taken of this speed flight, in which the machines return to the point of departure, to estimate the total kilometric consumption, by dividing the total consumption by 60. The amounts of oil and gasoline will be measured before and after flight. Furthermore, and for the purpose of verification, the machines in flying order will be weighed before the order to start is given, before the departure, and the reservoirs will be sealed with lead seals. These same apparatus will be weighed upon their arrival. The amount of supplies necessary to cover the 300 kilometers will be deducted and these amounts will be compared with those previously declared by the constructor. In case the amounts declared, and with which the machine made the first flights, should be inferior by 10 per cent to that determined by the speed flight, the whole series of flights will be recommenced with the newly determined quantity.

The two altitude flights of the program will also be made with full charge. They will be performed on the aerodrome at Rheims. The machines are required to rise from the ground to an altitude of 500 meters in less than 15 minutes. The measurements of altitudes reached and time required will be recorded by means of registering barometers of the central establishment at Chalais-Meudon.

PRIZES OFFERED.

[P. 452, second column.]

The prizes are as follows:

To the first: Purchase of the winning machine, 100,000 francs. Order for 10 machines at 40,000 francs each, with 500 francs premium per kilometer of speed above 60 kilometers; making for 80 kilometers, 10,000 francs per machine. This would make a total for the first of 600,000 francs.

To the second: Order for six machines at 30,000 francs each, and a premium of 500 francs as above. Eventual total, 400,000 francs.

To the third: Order of four machines on the same conditions. Eventual total, 200,000 francs.

DIFFERENT METHODS OF FULFILLING CONDITIONS.

There are three solutions to the problem the constructors were required to solve:

First, by increasing area of wings; second, by increasing power of motors; third, combination of 1 and 2.

First. By adopting the first solution—increasing the wing area—there results an enormous machine, requiring much petrol for a given flight, but on the other hand, landing easily and requiring less structural strength as it carries less per unit of surface.

Second. By adopting the second solution—increasing the speed—there will be less wing area, less petrol required for a given flight,

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which results in a reduction of the total weight carried, but it will be necessary to have a very strongly built machine, much heavier in consequence and rendering landing much more difficult. It is true that this solution will insure winning, as the final test is based on speed, provided the other conditions of the contest can be fulfilled.

Third. By adopting the third solution, a solution between the others and possibly the best. This consists of increasing the load per unit of wing area, in order not to have excessive wing area and to increase speed as much as possible by reducing to a minimum the resistance by suppressing all unnecessary parts, by selecting a method of construction avoiding the use of uprights and guys offering resistance, by the use of a covered tapering body, inclosing as much as possible aviator and passengers, by the employment of well-designed wings, either flexible or jointed on afterside, giving a minimum of resistance for a maximum of supporting power.

The builders of biplanes have as a general thing adopted the large wing area solution; the monoplane builders have in general adopted the increased speed solution, in order to retain as long as possible the general arrangement and method of building their machines.

MACHINES ENTERED.

[P. XV, first column.]

The following is the complete list of the machines admitted to the competition:

No.

1. Breguet machine, Gnome motor, 100 horsepower, weight empty 652 kilograms.
2. Breguet, Dansette motor, 110 horsepower, 722 kilograms.
3. M. Farman, Renault motor, 70 horsepower, 689.5 kilograms.
6. Voisin, Renault motor, 75 horsepower, 674 kilograms.
7. M. Farman, Renault motor, 70 horsepower, 651.5 kilograms.
8. Coanda, 2 Gnome motors, 60 horsepower, 666 kilograms.
9. Breguet, Gnome motor, 140 horsepower, 637.5 kilograms.
10. Goupy, Gnome motor, 100 horsepower, 547 kilograms.
11. Goupy, Chenu motor, 70 horsepower, 618 kilograms.
12. Antoinette, Antoinette motor, 60 horsepower, 935.5 kilograms.
13. Breguet, Salmson motor (Canton-Unne system), 120 horsepower, 703 kilograms.
14. Bleriot, Gnome motor, 100 horsepower, 465.3 kilograms.
15. Voisin, Gnome motor, 140 horsepower, 622 kilograms.
16. Astra (triplane), Renault motor, 75 horsepower, 760 kilograms.
18. Breguet, Chenu motor, 80 horsepower, 704 kilograms.
19. Paulhan (triplane), Renault motor, 75 horsepower, 751 kilograms.
20. H. Farman, Gnome motor, 70 horsepower, 411 kilograms.
21. H. Farman, Gnome motor, 100 horsepower, 471 kilograms.
22. H. Farman, Renault motor, 70 horsepower, 650 kilograms.
23. Breguet, Salmson motor (Canton-Unne system), 85 horsepower, 611 kilograms.
24. Savary, Labor motor, 70 horsepower, 708 kilograms.
26. Bleriot, Gnome motor, 140 horsepower, 515.5 kilograms.
27. Morane, Gnome motor, 100 horsepower, 517 kilograms.
28. Hanriot, Clerget motor, 100 horsepower, 578 kilograms.
29. Deperdussin, Gnome motor, 100 horsepower, 452 kilograms.
30. Deperdussin, Clerget motor, 100 horsepower, 526 kilograms.
31. Deperdussin, Anzani motor, 80 horsepower, 430 kilograms.
32. Astra (biplane), Chenu motor, 75 horsepower, 862 kilograms.
33. Astra-Wright, Renault motor, 60 horsepower, 624 kilograms.
34. Voisin (biplane), Gnome motor, 100 horsepower, 634 kilograms.
35. Nieuport, Gnome motor, 100 horsepower, 483 kilograms.

Making a total of 9 monoplanes, 20 biplanes, and 2 triplanes.

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SUMMARY OF MOTORS EMPLOYED.

[P. XV, second column.]

The makes of motors employed are 9 in all, with a total of 32 motors (Coanda having 2 motors on his biplane), which may be classified as follows:

Air-cooled motors:
- Stationary, star-shaped: 1 Anzani, 6-cylinder, 80 horsepower.
- Rotary, star-shaped: 14 Gnome, 7-cylinder, 70 horsepower; 14-cylinder, 100 horsepower and 130 horsepower.

In V-shape: 6 Renault, 8-cylinder, 75 horsepower.

Water-cooled motors:
- Star-shaped: Two Salmson (Canton-Unne system), 7-cylinder, 85 horsepower and 9-cylinder, 120 horsepower.
- V-shaped: One Antoinette, 8-cylinder, 60 horsepower; 1 Dansette, 8-cylinder, 110 horsepower.
- With vertical cylinders: One Labor, 4-cylinder, 70 horsepower; 2 Clerget, 4-cylinder, 100 horsepower.

ELIMINATION TRIALS.

The entire month of October was devoted to the perfecting of machines, motors, etc., trials being made from day to day whenever weather and other conditions were favorable. Many days were unfavorable, and up to October 24, with but one week remaining, only three aviators succeeded in passing the preliminary tests: Weymann, on the Nieuport monoplane; Fischer, on the Henry Farman biplane; and Renaus, on the Maurice Farman biplane. During the last few days before the close of the elimination period six others succeeded in completing the preliminary tests, making a total of nine eventually designated by the commission as qualified for the final test. Of these, five—Vedrines and Prevost on Deperdussin monoplanes, Franck on a Savary biplane, Bregi and Moineau on Breguet biplanes—finished their remaining tests in brilliant fashion.

RESULTS OF ELIMINATION TESTS.

As a result of the elimination tests held during the month of October (three landing trials, one speed trail, and two altitude trials), the committee declared the following pilots and machines qualified for the final test:

No.	Pilot.	Machine.	Type.	Horsepower.	Motor.
35	Weymann	Nieuport	Monoplane	100	Gnome.
3	Renaux	M. Farman	Biplane	70	Renault.
21	Fischer	H. Farman	do	100	Gnome.
7	Barra	M. Farman	do	70	Renault.
24	Franck	Savary	do	70	Labor.
29	Prevost	Deperdussin	Monoplane	100	Gnome.
31	Vedrines	do	do	80	Anzani.
1	Moineau	Breguet	Biplane	100	Gnome.
9	Bregi	do	do	140	Do.

DESCRIPTION OF VARIOUS MACHINES.

The different machines entered in the contest are quite fully described in the attached pages of the Aerophile of recent dates.

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They are, in some cases, accompanied by sketches and plans and include the following:

	Page.
Nieuport, monoplane	426
Henry Farman, biplane	450
Maurice Farman, biplane	440, 453
Savary, biplane	522, 454
L. Clement, biplane	454
Henry Farman, monoplane	474
Breguet, 3-place military biplane	476
Paulhan, triplane	488
Antoinette (monobloc) monoplane	488
Nieuport, monoplane	489
Voisin machines	489
Zodiac, biplane	490
H. Farman, biplane	490
Bleriot, monoplane	490
Astra machines	490
Astra type, C. M. biplane	490
Astra-Wright, biplane	490
Astra, triplane	491
Hanriot, military monoplane	498
Deperdussin, monoplane	501
Breguet, biplane	501
Coupy, biplane	501
Coanda, biplane	502
Hanriot, monoplane	503
Borel Morane, monoplane	503
Sommer, biplane	503
Rep, monoplane	504
Rep, biplane	505
Paulhan, acro-torpedo	510

FINAL TRIAL.

After nine days of very unfavorable weather, the final trial in the military aviation contest took place on November 13. This consisted of a 300-kilometer flight from Rheims to Amiens and return.

Of the machines and aviators declared qualified after the elimination trials, the following started the final trail on November 13, as follows:

No.
3. Renaux, biplane, M. Farman, Renault, 70 horsepower, 9.56 a. m.
29. Prevost, monoplane, Deperdussin, Gnome, 100 horsepower, 11.22 a. m.
35. Weymann, monoplane, Nieuport, Gnome, 100 horsepower, 11.28 a. m.
21. Fischer, biplane, H. Farman, Gnome, 100 horsepower, 11.30 a. m.
7. Barra, biplane, M. Farman, Renault, 70 horsepower, 11.36 a. m.
1. Moineau, biplane, Breguet, Gnome, 100 horsepower, 11.40 a. m.
24. Franck, biplane, Savary, Labor, 70 horsepower, 11.46 a. m.
Bregi, biplane, Breguet, Canton-Unne, 100 horsepower, 11.52 a. m.

The last is not a qualified machine.

The following is the order in which the machines rounded the mark at Amiens:

Renaux	12.25	Barra	1.55
Weymann	12.55	Franck	2.24
Prevost	1.05	Bregui	2.36
Fischer	1.34		

The elapsed times for the complete flight of those fulfilling all conditions are as follows:

	Time.	Speed.
	h. m.	*km.*
Weymann	2 34	116.880
Prevost	3 15	92.280
Fischer	3 35	83.700
Barra	3 57	76.200
Renaux	4 12	69.600
Franck	4 29	65.900

Although Bregi finished in 4 hours and 23 minutes, his flight is thrown out, as he used a machine that had not qualified. Vedrines did not start on account of an accident to his machine in a preliminary

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flight. Moineau was obliged to land at Laon on account of motor troubles.

The conditions were very good, weather was fine, and the wind light and across the line of flight.

The test was considered most satisfactory, as it was not expected that so many would complete the flight. With the exceptions above noted everything seemed to pass off admirably—Weymann above all producing a great impression. Starting one hour and a half after Renaux, he arrived at Amiens but 30 minutes after him, and at Rheims 7 minutes before him. The speed, regularity, hardiness, ease of landing, and structural robustness were the special qualities shown by the winning Nieuport machine.

In addition to the descriptions of aeroplanes participating in the military aviation contest, previously referred to, attention is invited to the following articles of general interest in the aviation line:

Danger of fire in aeroplanes..... 452
The aviation contest and landing apparatus..... 482
The Salmson system, Canton-Unne motor..... 483
Automatic stability of aeroplanes..... 486
Brief description of dirigible "Adjutant Reau"..... 492
Landing apparatus at Rheims..... 506
Aviation motor competition..... 511

It was, of course, impossible for any one observer to usefully follow these trials, even if he had gone to Rheims and remained there during the entire six weeks or more. I did go to Rheims, and found much profit in examining the various machines and discussing their qualities with the aviator officers of the French Army, who were there in charge of the competition, but it was impossible to see much of the actual tests. These started on the aviation ground, but they finished many miles away. To merely see machines rise and fly off had no particular value.

There is still heard the echoes of last year's discussion as to the relative value of 1-place or 2-place machines for observation, but the trend of present opinion seems now distinctly in favor of the 2-place machines. The difficulties of observing in a vertical direction from the monoplanes, especially the Bleriots, has to a certain extent been obviated in the latest military type, by cutting away a part of the wings next to the body, so that by leaning over the side a vertical view can be had by the pilot or observer.

The machines with small landing wheels made the worst showing on plowed or rough ground, either for landing or rising, and the military men show a decided preference for large landing wheels and the most powerful landing mechanism that can be provided within the limits of weight. The Astra triplane has carried this idea to its limit, it would seem, and yet the pilot of that machine, as well as some of the officers, considered that the great weight put in the landing wheels was well worth while. The landing of this machine was said to be safe and easy on all ground. On page 506 of attached papers will be found some interesting remarks on the landing devices of the various machines.

The Voisin *Canard* seemed to have made a good impression and was very highly spoken of. The same may be said of the Paulhan and Tatin's torpedo aeroplane. The Antoinette armored machine was not considered useful for any purpose. It did not even leave the ground, as far as I could learn.

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The conditions of the test were acknowledged to be exceedingly severe, both by the Government officials and by the constructors. However, this was not made a subject of ill-natured complaint. The constructors confessed that very difficult work had been cut out for them, but they went at it cheerfully and resolutely. Those whose machines completed the preliminary tests were very proud of the fact and said that the very severeness of the tests had taught them a great deal.

It is to be remarked that none of the types were new creations devised solely with the idea of meeting military requirements. This was especially so of the most successful ones. They were merely modifications of existing types, made more powerful to comply with the requirements of the contest in the matter of weight carrying and landing on difficult ground. It was the opinion of the military men that the true type of military machine has not yet been arrived at. It may lie in a modification and perfection of existing machines or it may come to us through the creation of a new model. In any case the contest now finishing has pointed the way and has resulted in a great step forward.

The military aviation school at Rheims is a new creation with enormous permanent sheds for housing aeroplanes, new buildings for administration, and small hospital for first aid, etc. The ground here is flat, and there is a huge open space for aerial maneuvers, but the climate is not propitious. I was told that a rather windy region was selected intentionally, as aviation had now reached a point where pupils, after passing through their earlier instruction, must get used to flying in bad weather rather than in good. Rheims, however, is also a strategic location for aeroplanes, with reference to armies operating near the German frontier, and this fact of course had an influence in its selection.

Dismounting and Mounting an Aeroplane in 20 Minutes.

[From Lieut. Col. T. B. Mott, Military Attaché, Paris, France, Feb. 20, 1912.]

It will be remembered that at the maneuvers of 1911 aeroplanes followed the troops and were folded for traveling on roads and set up when desired for use. Experiments along these lines continue with various makes, as this quality is naturally deemed of great importance in war.

During the maneuvers the Bleriot machines are reported to have been put in route order in 15 minutes and conversely taken from their vans and made ready to fly in 15 minutes.

Last week tests were made with the Nieuport machine as follows:

The aeroplane in its van, wings folded for route march. Make a 3-hour march on the road and 2-hour march across fields, then put the aeroplane in flying order and fly.

This test was made under the direction of the aviator Weymann. After the 5-hour trip the machine was ready to fly in 9 minutes 15 seconds, and 1 minute 15 seconds was needed to regulate it, and then Weymann made a flight.

In a few weeks similar experiments will take place with the Sommer monoplane and with the Farman biplane for two persons.

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Heretofore one of the serious advantages of the monoplane has been the facility with which it could be folded and put in route order. The biplane makers are evidently bent upon reducing this advantage.

RUSSIA.[1]

Russia possesses dirigibles, aeroplanes, and hydroaeroplanes. The dirigibles are of the Lebaudy, Clement-Bayard, and Zodiac types. They have also one Parseval and several other balloons are being constructed. From the point of view of aeroplanes, it is Russia which should be classed in the first rank after France. Pilots are numerous and good. Construction is not particularly important, but the State has made many purchases in France. Russian aeroplanes have taken part in the grand maneuvers, and some of their experiments have been made with the wireless. The Russian aerial fleet is much more numerous than is generally supposed, and it is perfectly organized. The aeroplanes are of the types of the Nieuport, Deperdussin, Farman, Voisin, Bleriot, and Sommer. In addition, the navy department possesses several hydroaeroplanes, the first of which was ordered from the American Curtiss, but the others of which came from the shop of the Voisin Bros.

Progress During the Year 1910 and Present Condition of Aeronautics in the Russian Army.

[From Capt. N. K. Averill, Seventh Cavalry, military attaché, St. Petersburg, Russia, Jan. 19, 1911.]

GOVERNMENT GRANTS.

In 1910 $13,150 was given toward an aviation meeting. An annual subsidy of $2,625 has been granted for three years to the All Russian Aero Club, and a subsidy of $1,600 to the Journal Vozdukhoplavatel.

PROGRESS IN AERONAUTICS.

Great progress has been made in the acquisition of dirigibles. The Government policy seems to be to construct a fleet that will consist mainly of two classes: One of ships of 3,000 cubic meters capacity or less for scouting, and the other of ships of over 5,000 cubic meters for strategical reconnoissance. It seems intended to rely on home manufacture and only to purchase abroad sufficient ships to test the various systems. Thus for the smaller category a Lebaudy was bought and lately two Zodiacs. The first Russian-made ships of the smaller class have been designed by Shapski and constructed at the Government works under the Kirpitchev committee, and now they are also being built by private firms. Their cost is moderate, averaging about $22,500. They approximate the Lebaudy type. The Lebaudy underwent a certain amount of reconstruction after it had been some months in use. The Zodiacs, it is said, are found not to give such good results as the Russian ships. For the larger class a Clement-Bayard

[1] From the speech of M. Adolph Girod in French Chamber on bill No. 1656, looking to there organization of the aeronautical service in the French Army.

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was purchased, but it is not approved of, mainly owing to want of speed. A Parseval has been lately acquired, but its trials are not yet completed.

The ships now possessed and ordered are as follows:

	Cubic meters.
Uchebni (instructional)	1,205
Lebed (Lebaudy)	3,700
Krechet	about 5,000
Golub	2,660
Duks Co. ship	2,660
Parseval VII (Germany).	
Dyi flon Co. ship to be completed next spring.	
Two Zodiacs (France).	

One large ship of 6,000 cubic meters has been ordered at the Ijor Works. Four large ships are being ordered, of which Duks Co. will probably make two. The Government has probably from all sources about 40 aeroplanes at its disposal. The All Russian Aero Club and the committee for strengthening the fleet will, it is believed, confine their work to aeroplanes and not the construction of dirigibles.

AVIATION SCHOOL FOR OFFICERS.

This school, which has been formed out of the "instructional balloon park," was opened on September 14, 1910. Its object is to prepare the personnel for the units, to keep the material for them, and for trial and testing of inventions. It comprises the staff, an officers' class, and the battalion of the school, that has a permanent and temporary establishment. Attached to the school are an instructional committee, workshops for material and testing, a central depot for material, a museum, and meteorological and photographic studios. The staff consists of a commandant, an assistant commandant, treasurer, 4 secretaries, 12 tradesmen, 14 orderlies, and 2 draftsmen; a director of studies who is a senior officer, 4 officers' instructors, 4 noncommissioned officers, and 4 men, for the officers' class; 1 officer and 3 men for the testing studios; one engineer official, 3 secretaries, 2 overseers, 9 men, and 2 horses for the central depot.

The instructional committee is composed of the commandant, assistant commandant, director of studies, the instructors, and professors. The officers' class consists of 30 engineer officers, who must have had at least one year's service with the troops and not be above the rank of second captain. Officers of other arms may be permitted to join on the understanding that they serve two years in one of the aviation units after passing the school. During and at the end of the course, which lasts a year, there are theoretical and practical examinations. Those who obtain an average of less than 9 out of 12 marks or less than 7 in any one subject are returned to their units. Those who obtain an average of 10 out of 12 marks and not less than 8 in each subject receive a bonus equal to one-third of their pay. All who complete the course receive the badge of the school (a winged anchor in gold surrounded by a laurel crown in silver) and are liable to serve for two consecutive years in the aviation units. If there are no vacancies, they retain the right to be nominated to them as they occur for five years. The battalion of the school carries out practical exercises, tests, and experiments, and on

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mobilization it is given a special task. Its permanent establishment is recruited, from men of first-class education and from specialists (tailors, rope and net makers, smiths, mechanicians, and photographers). The temporary establishment consists of men from the aviation units, who are attached for four months and receive a more advanced instruction.

OTHER NEW SCHOOLS.

A military school of aviation is attached to the marine battalion at Odessa. At present it owns a Bleriot and a Farman, and another Farman is being constructed.

The ministry of trade and industry is introducing an aviation section into the shipbuilding course of the St. Petersburg Polytechnic. The All Russia Aero Club proposes to found a school for practical aviation. The course is to be for one year and those who completo it are to be at the disposal of the Government on mobilization. The military department is to be allowed to send 20 students free of charge. The committee for strengthening the fleet has a school at Sevastopol. Successive classes attend for eight weeks and the instruction is confined to practical flying.

GERMANY.

[From speech of M. Adolphe Girod in French Chamber on bill No. 1656, looking to the reorganization of the aeronautical service in the French Army.]

This year in Germany a number of flying machines were utilized in different maneuvers. In the imperial maneuvers there were 8, in the Bavarian maneuvers 4, in the Thorn maneuvers 5, and in other maneuvers also various machines took part. From all sides come good reports of their work. In both the imperial and in the Bavarian maneuvers the army commanders based to a great extent their dispositions on the reports of the flyers. But it must be remembered that the weather conditions were especially favorable and that this was peace work. The aeroplanes were often within easy rifle shot.

The German organization has been created with method and power.

The country possesses in dirigibles the most numerous fleet of the world.

At the beginning of January, 1912, Germany had at its disposal the following air dirigibles:

1. Zeppelin III (14,000 cubic meters), Government, at Metz.
2. Zeppelin IV (16,000 cubic meters), Government, at Cologne.
3. Parseval I (3,300 cubic meters), Government, at Metz.
4. Parseval II (4,500 cubic meters), Government, at Cologne.
5. Parseval III (3,300 cubic meters), Imperial Aero Club.
6. Parseval VI (7,700 cubic meters), public dirigible.
7. Parseval VIII (5,600 cubic meters), private dirigible.
8. Parseval IX (7,500 cubic meters), private dirigible.
9. Parseval X (1,500 cubic meters), private dirigible.
10. Parseval XI (1,500 cubic meters), private dirigible.
11. Parseval XII (10,000 cubic meters), Government, at Berlin.
12. Parseval XIII (10,000 cubic meters), Government, at Metz.
13. Military III (Gross) (6,000 cubic meters), Government, at Berlin.
14. Military IV (Gross) (6,000 cubic meters), Government, at Berlin.
15. Military V (Gross) (6,000 cubic meters), Government, at Berlin.

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16. Military VI (Gross) (6,000 cubic meters), Government, at Berlin.
17. Clouth (1,800 cubic meters), private dirigible.
18. Siemens Schukert (15,000 cubic meters), near Berlin.
19. Forsmann (600 cubic meters), Augsbourg.
20. Steffen (900 cubic meters), Kiel.
21. Schwaben (Zeppelin) (18,000 cubic meters), Frankfurt-on-Oos, near Baden-Baden.
22. Ruthenberg I (1,500 cubic meters), Berlin.
23. Ruthenberg II (1,500 cubic meters), Berlin.
24. Ruthenberg III (1,500 cubic meters), Berlin.
25. Schutte Lanz (16,000 cubic meters), Mannheim.
26. Vech, Munchen.
27. Suchard (7,500 cubic meters), Kiel.
28. L. Z. IX (Zeppelin) (16,000 cubic meters), Dusseldorf.
29. Military II (Gross) (6,500 cubic meters), Government, at Cologne.
30. Le Deutschland (19,000 cubic meters).

Military Notes for September, 1911.

[From Capt. Samuel G. Shartle, Coast Artillery Corps, American military attaché, Berlin, Germany Oct. 5, 1911.]

AERONAUTICS.

The new Zeppelin military airship is ready for her trial trips. This ship will be stationed in Cologne. She is 132 meters (145 yards) long, and is in form like the *Schwaben*, which has been making such successful passenger trips from Baden Baden and Dusseldorf this summer. The steering apparatus is somewhat smaller. There are two gondels with three Maybach motors of 150 horsepower each brought rather close on the frame. The speed is expected to be nearly 20 ms. (45 miles) per hour. According to report this airship will be fitted with wireless, and also probably with a light gun. The middle cabin of the *Schwaben* falls away in the military type.

This year in Germany a number of flying machines were utilized in different maneuvers. In the imperial maneuvers there were eight, in the Bavarian maneuvers four, in the Thorn maneuvers five, and in other maneuvers also various machines took part. From all sides come good reports of their work. In both the Imperial and in the Bavarian maneuvers the army commanders based to a great extent their dispositions on the reports of the flyers. But it must be remembered that the weather conditions were especially favorable and that this was peace work. The aeroplanes were often within easy rifle shot.

German motor factories are beginning to produce air-craft motors, which will eventually replace the French motors and give a greater impetus to the flying machines in Germany. When it is remembered that two years ago when Wright made his Berlin flights, scarcely anybody in all Germany had ever seen a flying machine, the progress is all the more striking.

The war ministry has ordered a Hanlan monoplane with a 100-horsepower Argus motor.

About 40 officers have secured their pilot's certificates. These will be distributed to the various troop-exercise grounds. The next course at Doberitz will take place in October and November.

The Berlin autumn flying week began September 24 and lasted until October 1. No world records were broken, but the performances were in general good. The week was marred by the sad accident,

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in which Englehardt, the first pupil of Wright in Germany, lost his life. He was flying with a passenger when something about the machine broke and it fell suddenly from only about 23 meters. Englehardt was killed, but his passenger escaped. It is surmised that a wire loosened and that the propeller struck it. The main performances were as follows:

Contest A (flying machines): Albatross biplane (100-horsepower motor), 13 hours and 56 minutes; Rumpler-Taube, 11 hours and 55 minutes.

Contest B (flyers): Pietschker, 13 hours and 56 minutes; Suvelak, 12 hours and 13 minutes.

Height: Hirth, 2,475 meters.

A performance worthy of note was that of Fraulein Nelly Beese, the first German woman pilot, who flew 9 hours and 22 minutes.

The war ministry had given prizes and will buy the two successful machines.

AERONAUTICS.

[Extract from military notes for October, 1911, from Capt. Samuel C. Shartle, military attaché, Berlin, Germany, Nov. 23, 1911.]

A course in now in progress at Doberitz which has for its object the training of officers in overland flights. About 40 officers have already gotten their pilot's certificate. The next regular course for learning to fly will begin in the spring. The Aero Club of Schlesien has instituted a school in Breslau where 5 officers have been detailed to take the course.

The Koln airship battalion No. 3 was formed October 1 and has at present 22 noncommissioned officers and 150 men. In two years it will be brought up to 400. At Koln are a Parseval, a Gross, and it is expected the new Zeppelin will be stationed there.

The big Gross airship *M IV*, according to report, will be dismantled and made smaller, after the model of *M III*, recently destroyed in the imperial maneuvers. The *M IV* was built with two gondels. Its length was 96 meters and volume 10,000 cubic meters. It has made several trial trips since its first in April, but they have not been entirely satisfactory. It was to have taken part in the imperial maneuvers, but on account of an accident could not. The gas bag is said to lose too much gas. It is probable that the semirigid or nonrigid type is not suited to such dimensions. Beyond a certain size they lose the chief advantage of such a type—i. e., quick dismantling and easy transportablility.

The *Schwaben*, the Zeppelin commercial ship, has had a very successful season.

The *L. Z. IX*, a new Zeppelin for the army, was accepted October 28, after a series of tests including an endurance trip of 20 hours, a speed trial in which 45 miles per hour is said to have been obtained, an 8-hour trip maintaining a height of 1,200 meters, besides the operating and machinery tests. The *L. Z. IX* is similar to the *Schwaben*, except that the passenger gondel is lacking. Reports say it is fitted with a machine-gun platform, wireless apparatus, and transportable anchor.

The Government has also taken over a new Parseval, ordered last year. This is to be a fast, comparatively small airship.

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The much talked of Schutte-Lanz has finally made a successful trial trip.

The performance of the aeroplanes in the imperial maneuvers has brought them into favor, without, however, destroying the German's belief in the airship. Air craft is now being referred to as the "Fourth arm," and demands for increased appropriations for this "arm" are frequent.

The results of the autumn flying week, held at the flying grounds at Johannisthal, near Berlin, are as follows:

In contest A, Alfred Pietschker won the first prize of 5,390.07 marks ($1,282.84) on an Albatross biplane.

Joseph Suvelack received the second prize of 4,609.93 marks ($1,097.16) on a Rumpler-Taube monoplane.

Hellmuth Hirth was awarded the plaque of the Royal Aero Club for attaining the greatest height. He used a Taube.

The results of contest B are shown in the following table:

Flyer.	Total number of minutes flown.	Sums won (marks).	Flyer.	Total number of minutes flown.	Sums won (marks).
Pietschker	826	3,716.71	Oelerich	316	1,404.91
Suvelack	733	3,258.79	Casper	300	1,333.78
Witte	632	2,809.77	Schauenburg	295	1,311.75
Grulich	610	2,711.96	Hanuschke	257	1,142.61
Frl. Beese	562	2,498.56	Wertheim	194	862.53
Kahnt	452	2,009.53	Noelle	186	826.86
Engelhard	409	1,818.37	Otto	130	578.10
Schirrmeister	335	1,489.38	Rover	94	417.95
Schwandt	331	1,471.60	Steinbeck	76	337.94

The Normal Type of Our Military Aeroplanes.

[Translation No. 2463. The Neues Wiener Tagblatt of Dec. 7, 1911.]

Our war office has fixed a normal type for aeroplanes which have to serve military purposes. All aeroplanes which are delivered to the Army must comply with the respective provisions. Exact conditions for the taking over of aeroplanes have been laid down.

The apparatus must be so stable that it is able to resist sudden squalls and that the pilot, even during the longest flight, is not exhausted. When the motor ceases to work, the apparatus must be able to proceed to a gliding flight without interference of the crew. The carriage must possess guidable wheels; the steering has to be done by pedals. Besides, there must be two more pedals by which merely the horizontal rudder can be worked. As steering device, the military system of steering has to be built into such aeroplanes. The vertical lever works the vertical rudder, the volant with chain wheel the transverse stability. The steering wheel must be parallel to the pilot.

Gas throttle and all levers in connection with the motor must be solid and large, and have to be adjusted on the right of the pilot's seat, about 50 centimeters in front of the back of the seat. All steering cables have to consist of easily flexible, unextensible steel wire ropes, the ends of which have to be spliced without being soldered.

The apparatus has to be built for two persons, pilot and observer. Their seats have to be arranged in such a way that the observer is not at all, and the pilot as little as possible, prevented from looking

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forward and sideways and also downward for the purpose of landing or inspecting the tension wires. (The apparatus can also be manned with two pilots, who relieve one another, and pilot and observer.) The motor must not be placed behind the pilot and observer. On both seats elastic leather belts 10 centimeters broad must be fitted up, and it must be possible to untie it with one grip of the right or left hand, even when pilot and passenger are hanging in the straps. The seats must be so arranged that pilot and observer can be seated in a position as normal as possible and that they are protected from draft of air as much as is feasible.

It is further demanded that the apparatus can be taken to pieces for transportation on roads within half an hour, and after such transport can be mounted for use in likewise half an hour by six soldiers. The taking to pieces has to be preceded by a flight, and the mounting must also be followed by a flight. It must be possible to transport the apparatus without the aid of a vehicle even over rough country, when it must also be able to pass through a rectangular opening of 2.30 by 3.50 meters.

The conditions for trial flights before an apparatus is accepted on behalf of the war office are as follows:

The commission selects one apparatus out of a number of aeroplanes of the same type which has to make a long-distance flight of 450 kilometers in an average height of 500 meters. The pilot, after flights of two hours each, is allowed to land and take rest, but must not touch apparatus or motor during the pause. The minimum weight of pilot and observer is 160 kilograms. If their actual weight is smaller, the difference has to be made up. The length of the run before the flight must not exceed 60 meters in the case of one occupant, and the start is not to be made against the wind. One landing has to be effected by means of a gliding-down flight from at least a height of 100 meters, when the motor must be completely stopped.

Another long-distance flight has to be made with an apparatus selected by the commission out of a number of aeroplanes of the same type. This flight must last seven hours, must take place in an average height of 50 meters, and two occupants of a minimum weight of 160 kilograms must be in the flying machine. Besides, the apparatus must carry a load of 100 kilograms. The run before the ascent must not exceed 100 meters.

In the third place the speed is tested by a flight at which the apparatus carrying the same weight as in the seven hours' flight must fly in a maximum height of 50 meters along a marked line of two kilometers twice to and fro. The average speed must be at least 80 kilometers.

A further condition is that the apparatus with the before-mentioned weight of 260 kilograms is able in calm weather within 15 minutes after the start to rise to a height of 1,000 meters.

Finally, the reliability has to be shown by a flight of 15 minutes, duration without passenger in a wind whose intensity is at least 15 meters per second.

In order to test landing and ascent under unfavorable conditions, as in the field—that is, on or from fields, stubble-field meadow, pasture land, etc., and within a narrow compass, as well as without any assistance—the commission selects a place on which the apparatus with the load as above has to land and to rise again.

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MILITARY NOTES FOR THE MONTH OF JANUARY, 1912.

[From Capt. Samuel G. Shartle, Coast Artillery Corps, military attaché, Berlin, Germany No. 2400. Feb. 8, 1912.]

The Russian military administration is said to have about 150 aeroplanes, ranking next to France, while Germany has about 50.

The German Government has already purchased 20 Etrich-Rumpler monoplanes and has ordered 20 more.

A military aeroplane station will be instituted at the new troop exercise grounds at Zehrensdorf, where a shed for 12 to 15 machines with repair workshop will be erected.

The Siemens airship, it is reported, will be purchased by the Government. It has been seen frequently over Berlin and is a good fast ship. (See Ey. 2150, p. 3.)

The Emperor has offered a prize of 50,000 marks ($11,900) for the best German aeroplane motor developed in the year 1912.

The *L. P. 11* has been taken over by the Government. It surpassed the conditions of the trial trip, among which were to ascend to a height of 1,500 meters in 40 minutes and to remain at this height 2 hours.

Officers detailed to the Doberitz Aeroplane School, as well as those detailed to aeroplane factories, must fulfill the following conditions: Three years' service, robust health, good eyes, application, weight not over 176, tactical knowledge, freedom from dizziness, good heart and lungs, technical knowledge, etc.

Enlisted men are being trained for repair-shop work in the aeroplane factories.

The Etrich-Rumpler aeroplane factory employs about 100 men.

A news item states that Engineer Ekelmen of the Albatross Aeroplane Works, has succeeded in inventing a satisfactory wireless apparatus for aeroplanes and that it operates up to 150 kilometers (94 miles), weighs only 65 pounds, and does not interfere with the stability of the machine.

Military attaché, Berlin, February 10, 1912, states that, according to official information, officers detailed as aviators receive additional pay as follows: Instructors, 150 marks ($35.70) per month; student officers, 200 marks ($47.60) per month.

In addition, an officer receives for the first month of the detail travel allowances, captains 12 marks ($2.86), and lieutenants 10 marks ($2.38) per day. After the first month commutation of quarters 1.46 marks ($0.35) per day in the winter, and 1.04 marks ($0.25) per day in the summer months for both captains and lieutenants. This allowance, naturalquartierservis, translated "commutation of quarters," is the sum paid to the community for furnishing quarters.

Hence an officer detailed to the flying squad receives the actual cost of transportation to the place of detail from his station and for the first month 200 marks plus 12 marks a day for captains, and 10 marks a day for lieutenants, in all 560 marks ($133.28) for captains; 500 marks ($119) for lieutenants.

For the following months, if student, 200 marks ($47.60) plus 1.46 marks ($0.35) per day or 243.80 marks ($57.02) for the winter and plus 1.04 marks ($0.25) per day, or 231.20 marks ($55.02) in the summer. If an instructor, 150 marks ($35.70) plus 1.46 marks ($0.35) per day or 193.80 marks ($46.12) for the winter and plus 1.04 marks ($0.25) per day, or 181.20 marks ($43.12) in the summer.

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Military attaché, Paris, February 11, 1912, states:

On February 9 I forwarded the information which was at hand on this subject. I have since received the following from the French war department, which gives the present allowances to those employed in aerial work. These are calculated on the length of time spent in the air during each ascent and are as follows:

Grade	Duration of ascent.	Extra compensation per ascent.		
		In free balloon.	In dirigible.	In aeroplane.
Officer or warrant officer	1 to 2 hours	$0.60	$1.00	$1.00
	2 to 6 hours	1.00	2.00	3.00
	More than 6 hours	2.00	4.00	5.00

Sergeant major, sergeants, or other enlisted men, one-half the above rates.

Officers and noncommissioned officers who serve beyond the legal time exacted for military service in balloon or aviation troops receive in addition to the above an increase of their daily pay, as follows:

Field officers	$0.50
Subaltern officers	.30
Mechanics, warrant officers and assimilated	.15
Sergeants major and sergeants	.08

The duration of any ascent in a spherical balloon, dirigible, or aeroplane is certified to by the senior officer taking part in the ascent. The duration of any ascent in aeroplane is calculated as the total length of time of all the flights of one day.

No account is taken of flights of less then 3 miles, in totalizing the duration of flight for one day. But a single flight of 3 miles is paid for at the rate of $1 for an officer or warrant officer, and $0.50 for enlisted men.

In case of accident aviators receive pensions allowed to all the military service for wounds or injuries while serving under orders from proper authority, but these pensions are granted only in case the injury is serious and incurable.

In case of death, aviators are considered as being killed while obeying orders; their widows have a right to the pension provided for such cases, i. e., one-third of the maximum pension allowed the grade held by the husband. In the case of widows of enlisted men, one-half the maximum pension allowed to the grade is given the widow. Orphans receive an annual allowance equal to the pension of the widow and payable up to the time when the youngest becomes of age.

Military attaché, Berlin, February 8, 1912, states that, according to unofficial information, German army officers, detailed as aviators, receive an additional 150 marks ($35.70) per month, whatever the grade.

The German war ministry has been requested to furnish this information officially. As soon as a reply is received, further report will be made.

Military attaché, Paris, February 9, 1912, states:

In August, 1910, the extra pay allowed to aviators was as follows: For officers 50 cent a day, subalterns 30 cents a day, warrant officers 15 cents a day, and other employees 8 cents a day. These figures are about to be increased to $1.60 a day for field officers, 80 cents a day for subalterns, and 40 cents a day for others.

However, this money indemnity does not by any means represent the davantages accruing to aviators in France. Several of them have been selected for promotion long ahead of their time and 35 have been put on the list for the Legion of Honor, a reward enormously sought after and appreciated in the army. Each year passed in active service as an aviator counts as a campaign, giving sertain privileges in the matter of retirement and pensions.

It is possible that these figures do not represent the latest official ones, but in that case I will be able ro inform you within a week if there has been any serious change.

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Military attaché, London, January 31, 1912, states that officers who have been selected for service with the air battalion are entitled to receive, when so employed, in addition to the pay and allowances of their regimental rank, the engineer pay of such rank, as follows:

	Per day.	
Liutenant colonel	14/-	($3.40)
Major	9/-	($2.19)
Captain	6/-	($1.46)
Lie tenants	4/-	($0.97)
Lieutenants under instruction	2/-	($0.49)

When the selected officers obtain the Royal Aero Club pilot sertificate they are each paid a reward of £75 ($367) These officers are required to undergo a further test after a short course at the air school in order to qualify as army airmen.

GREAT BRITAIN.

Precis of Military Information, etc.

[From Maj. S. L'H. Slocum, Second Cavalry, American military attaché, London, England, Mar. 31, 1911.]

PROVISION FOR AERONAUTICS, 1911–12.

The total provision for aeronautics in the army estimates just published is £133,000. For the air battalion, £20,000; for factories and construction, £85,000; and for sheds, etc., £28,000. In addition to this there is money that is to be spent upon the technical committee, which falls on the civil-service estimates.

AERONAUTICS—TERRITORIAL AIR CORPS.

In addition to the regular air corps, which is superseding the balloon school, it is reported in Parliament that a committee is sitting to organize a technical and a territorial section, as it is recognized that there are many men in the territorial force whose technical skill could be utilized, and a dirigible is to be placed at their disposal.

AIRSHIP "DELTA."

This airship will be completed by the end of April. It has a capacity of 140,000 cubic feet, sufficient to carry five persons in addition to wireless equipment. The gas bag is stiffened by an external arrangement which is covered by an outer envelope to minimize friction. Two engines, of 120 horsepower, are provided for driving the propellers, with an additional engine for the wireless equipment. The *Delta* can be taken to pieces and packed on wagons. Its speed is estimated at about 42 miles per hour.

AEROPLANES FOR RUSSIA.

It is reported that the Russian Government has decided to purchase 300 war aeroplanes, all of which are to be delivered before the end of the summer. Representatives of the purchasing committee, accompanied by Russian Government airmen, have been inspecting

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the machines at the aero and motor boat exhibition now being held in London; catalogues of this exhibition are being forwarded under separate cover. It is said they have bought 8 British-built Bristol biplanes, 5 Farman biplanes, and 40 Bleriot monoplanes.

[From the American military attaché, London, England, Nov. 30, 1911.]

INTERCOMMUNICATION SERVICE FOR WAR.

Army orders this month notify a reorganization of the intercommunication services of the expeditionary force as an army signal service in order to coordinate the various methods of intercommunication made use of in the field.

ARMY AIR BATTALION RESERVE.

With a view to forming a reserve for the expansion of the army air battalion on mobilization, a number of officers of the regular army will be selected as suitable for army aviation work. An officer must have not less than two years' service, be medically fit, and, preferably, unmarried. If not in possession of a pilot certificate, he must obtain one at his own expense. A reward of £75 ($367) will be given to selected officers after obtaining the certificate. In order to qualify as army aviator, a selected officer will undergo a further test after a short course in the army air school.

ARMY AEROPLANES.

The undersecretary for war stated in the House of Commons that there were 12 effective aeroplanes at present owned by the war department, and 3 more are under reconstruction in the factory; of these, 9 are English and 6 French manufacture. Seven English and 4 of French make have been purchased this year.

[From office military attaché, London, Dec. 30, 1911.]

MILITARY AEROPLANE COMPETITION.

The war office has published the conditions for the miltary aeroplane competition which it is proposed to hold about the middle of next year. The prizes will be awarded by the war office on the recommendation of a committee which will judge the tests and decide whether any machine submitted is to be subjected to any test.

The following are the prizes:

(*a*) Prizes open to the world for aeroplanes made in any country: First prize, £4,000 ($19,600); second prize, £2,000 ($9,800).

(*b*) Prizes open to British subjects for aeroplanes manufactured wholly in Great Britain, except engines: First prize, £1,500 ($7,350); two second prizes, £1,000 each ($4,900); three third prizes, £500 each ($2,450).

No competitor to take more than £5,000 ($24,500).

War office to reserve the right to vary the proportion of totals under (*a*) and (*b*) between the various prizes if the merits of the machines warrant it, or to withhold any prize if there is no machine recommended for it by the testing committee. The war office to have the

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option of purchasing for £1,000 ($4,900) any machine awarded a prize.

The owners of 10 machines which are submitted to all the flying tests and are not awarded a prize to receive £100 for each machine so tested. Oil and petrol to be supplied free for the tests. The place of delivery of aeroplanes entered for competition will be announced later. The specifications governing the requirements of a military aeroplane are appended hereto.

* * * * * * *

[From Maj. S. L'H. Slocum, Cavalry, American military attaché, London, England, Jan. 31, 1912.]

NEW ARMY AEROPLANE.

Trials have recently taken place of a new and perfectly silent aeroplane, of the Brique type, that has been produced at the aircraft factory. The machine is fitted with an 8-cylinder Wolseley engine giving from 50 to 60 horsepower, and it is said that at a distance of 50 yards it could not be heard at all. It has a 4-bladed propeller and measures about 20 feet across the planes. Another feature is that the pilot requires no assistance in starting, and within 10 seconds can rise from the ground.

AEROPLANE FOR MOUNTING MACHINE GUN.

Mr. S. F. Cody has fitted a 100-horsepower Daimler motor to his large biplane constructed for the London-Manchester flight, and in several flights at Farnborough it appeared to be much faster than the three Government machines flying at the same time. The biplane is fitted with seating for 5 passengers, and the designer proposes to add a platform upon which a machine gun can be mounted.

OFFICERS FOR AIR BATTALION.

The war office is inquiring if there are any captains or subalterns of the royal engineers who would like to serve with the air battalion for work with either captive balloons or kites, airships, or aeroplanes. Officers taking up captive work will also have the opportunity of learning the management of airships, but no promise is given that they will be transferred to the aeroplane company. The possession of a pilot's certificate is not necessary.

AVIATION IN AUSTRALIA.

It is reported that the Australian Commonwealth Government proposes to organize a school of aviation and is applying for the service of two British train aviators. The Government is ordering two monoplanes and two biplanes.

Reorganization of the Aviation Services in the British Army.

[From Maj. S. L'H. Slocum, Second Cavalry, American military attaché, London, England, Mar. 9, 1912.]

Important changes are announced in Parliament concerning the reorganization of the aviation services of the British Army. In introducing the estimates for the current year, Col. Seely, undersecretary of state for war, explained the war office policy.

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Respecting military aviation, there is to be one flying corps embracing soldiers, sailors, and civilians—all who could fly and would take the obligation to serve the country in time of war in any part of the world. The present air battalion will cease to exist, and part of it will be absorbed in the new organization. The corps will be one corps, and as far as possible all the officers will be paid and treated alike. For the present any officer who is approved by his commanding officer and the proper military authorities, who has been passed as medically fit, and obtains the pilot's certificate, will be accepted until the proper strength is approached, when it will be necessary to be more stringent. No man will hold executive rank unless he is himself an expert flyer. The whole force will be available for either land or naval warfare.

SCHOOL OF AVIATION.

After consideration by the committee of imperial defense, it has been decided to establish at once a joint army and navy school of aviation, at which officers of both services shall be taught progressive flying. A site for the school has been selected at Netheravon, on Salisbury Plain, where a large tract of land has been purchased. Building will be pressed forward, and it is hoped to have accommodation at the school for officers and men, instructors and mechanics, at an early date. In the first instance accommodation is to be provided for 60 officers at any one time. There will be three terms of four months each, and it is proposed to pass through 180 officers in the year.

The central school will not be used for teaching officers to fly; they will learn the elements of the art at a private aerodrome until they obtain the Royal Aero Club's certificate, and then go to the flying school for the more advanced course. It has been settled that the officers should learn to fly at private flying schools, first, because it is desirable to encourage private effort; and, secondly, because it is thought there is less risk of accident in the initial stages when this method is adopted. After obtaining this certificate officers will be awarded the sum of £75, which it is believed will cover the cost of their tuition. This arrangement has been in force some time, and it is understood that between 20 and 30 officers have already received the grant.

Afterwards officers will be attached to the central air school for the four months' course, where they will learn progressive flying, mechanics and construction, meteorology, observation from the air, signaling, and types of warships of all nations. After this course an officer of the air corps, whatever his origin, would either join the military wing or the naval wing, or go straight to the reserve. Officers of both services will be employed on the staff of the school, and its expenses (other than cost of land) will be shared between army and navy votes.

ORGANIZATION OF THE CORPS.

The military wing is to consist of 7 aeroplane squadrons, each containing 12 aeroplanes and a suitable number of officers for flying. An eighth squadron is to be organized, consisting of balloons or kites.

The naval wing will have headquarters at Eastchurch, on the Isle of Sheppey. The numbers have not been settled, but it is understood they will be considerable.

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The reserve will be divided into two classes—the first reserve consisting of airmen who perform a certain number of flights across country in each quarter and receiving a retaining fee, and the second reserve consisting of those who do not enter into this undertaking but would be available in time of war.

Both the army and navy wings will always be on a war footing and the peace and war establishments will be the same. The army aircraft factory will cease to be called by that name and will become the aircraft factory for the whole flying corps. Its functions will include experiment and building experimental machines; making big repairs to machines where that is thought desirable; sometimes building machines, though that is not to be its primary duty; and training in expert knowledge the numerous mechanics who will be required for this new service.

PURCHASE OF AEROPLANES.

The scheme involves the purchase of 131 aeroplanes. The first 71 have already been sanctioned and orders for many of them have been placed; others are in process of negotiation. Probably France has received the greater proportion of orders, as it is realized by the authorities that they are ahead of the British makers at the present time in the efficiency and safety of their machines.

OFFICERS REQUIRED.

The military wing requires at once to fly these aeroplanes 133 officers; the navy a number not yet fixed, but 30 or 40 immediately. In the reserve the number will depend on the progress of the science in the near future.

Provision for aviation in army estimates.

Establishment of army personnel for aeronautical work	£25,000
Premiums to officers gaining pilots' certificates	3,000
Staff of new school	5,000
Aeroplanes, stores, and materials for factory and school	161,000
Buildings, including army share of school buildings	38,000
Land for school	90,000
	322,000
Less admiralty contribution to general expenses of school	14,000
Total ($1,540,000)	308,000

MILITARY AEROPLANE COMPETITION.

It will be remembered the war office has already published details of a competition to take place about June or July next for military aeroplanes, in which two prizes amounting to £6,000 are offered to the world's makers of aeroplanes and six prizes, totaling £5,000, open to manufacturers in the United Kingdom. It is expected this competition will stimulate aeroplane construction, and as the Government has retained the option of purchasing any of the machines entered, it will provide them with the opportunity of selecting the most suit-

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able and reliable machines for the use of the new corps. Details of this competition will be found in my report for December, 1911, No. 1740.

[Extract from speech of the First Lord of the Admiralty.]

Whether Great Britain could be sure of obtaining full supplies of oil or could accumulate and store in reserve in Great Britain sufficient for the ever-growing requirements of the navy and capable of being protected from aeroplanes is a question which is constantly engaging the attention of the Admiralty.

BASES HOPES ON AEROPLANES.

Mr. Churchill attached great importance to the development of aviation, and said not many months would pass before regular flocks of naval aeroplanes would be attached for ordinary service to all the various squadrons and other commands.

[Extract from the Army and Navy Journal, Mar. 23, 1912.]

In introducing the army estimates in the House of Commons, March 4, Col. Seely, under secretary of state for war, announced that the aviation school to be established at Salisbury Plain, the great maneuvering ground in England, would be for the training of soldiers, sailors, and civilians. One hundred and eighty officers would be passed through the school yearly. They must first learn to fly at their own expense, to be repaid on presentation of their pilots' certificate. The Government will purchase 131 aeroplanes.

ITALY.

Italy has a fleet in Tripoli which has taken a very active part in the campaign. There are 17 aeroplanes. This number is being very rapidly increased. They have just decided upon the construction of four new airships, each of 12,000 cubic meters capacity, which shall have a speed of more than 20 meters per second. (From speech of M. Adolphe Girod in French Chamber on bill No. 1656, looking to the reorganization of the aeronautical service in the French Army.)

Italy maintains a "school of aviators" in which 18 officers were entered in 1910.

An extraordinary appropriation of $2,000,000 (10,000,000 lire) was made in 1910. The following is an extract from the law making the appropriation:

No. 266. Act No. 422 relating to the construction of dirigibles, aeroplanes, the relative working plants and working places, transportation, and special pay of the personnel. Administration of general affairs; July 10, 1910.

The Senate and the Chamber of Deputies have approved: We sanction and promulgate as follows:

"ARTICLE 1. In addition to the sums authorized in article 1, law of July 14, 1907, No. 496, and article 2, law of June 30, 1909, No. 404, there is approved the greater extraordinary allowance of 10,000,000 lire ($2,000,000) from those provided in the

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expenses of the ministry of war for the fiscal year 1909-10, in chapter 71: Provisions for mobilization, repair, and transportation of the same, and to serve for the construction of dirigibles, aeroplanes, the necessary working plants and working places, transportation, and special pay to the personnel."

NOTE.—See extracts from Italian press during November, 1911, regarding use of aeroplanes in Turco-Italian War, and extracts from the public press of March 19, 1912, containing telegraphic note regarding the dropping of bombs from an aeroplane belonging to the Italian expeditionary force in a Turkish camp near the city of Benghazi.

Much interest was recently excited in Constantinople by the arrival there of five monoplanes purchased in France for use in Tripoli. The difficulty at once presented itself of getting them to Tripoli, as it would be a flight of 300 miles to Benghazi from Crete, the nearest Turkish possession. It was thought that an attempt would be made to run the Italian blockade and to land them on the Tripolitan coast. (From the Army and Navy Journal, Mar. 30, 1912.)

Italy maintains a "school of aviation" in which 18 officers were entered in 1910. (From 6282-2, War College.)

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"ART. 3. For preparations, establishments, working places, and transportation to carry out with the funds named in article 1 of the present law the minister of war is authorized to provide with the lawful means by private contract or by bids.

"For payments, orders can be issued previously, regulated according to the needs.

"ART. 4 * * *.

"We order that the present, furnished with the seal of the state, be inserted in the official collection of laws and decrees of the Kingdom of Italy, ordering that is expected to observe it and to make observed as a law of the state.

"Given at Rome, July 10, 1910.

"VITTORIO EMANUELE."

The public press of Tuesday, March 19, 1912, contains the following telegraphic note:

BENGHAZI, *Monday*.

Bombs dropped from an aeroplane belonging to the Italian expeditionary force caused the deaths of 10 Arabs in a Turkish camp outside this city to-day.

The aeroplane, driven by an army aviator and carrying an officer and a passenger, left the Italian camp early in the morning and flew at a high altitude over the desert, where a strong Turkish and Arab encampment was found in a well sheltered position.

Before the aeroplane was noticed by the enemy the Italian officer had made valuable observations. Then some of the Arabs opened fire, to which the Italian aeronauts replied by dropping several bombs with deadly accuracy. They exploded in the middle of a group of Arabs. Ten men fell dead and several others were seen to be wounded.

The aeroplane then returned to the Italian camp.

The Italians have made use of aeroplanes since the beginning of the operations in Tripoli, and often have succeeded in obtaining valuable observations during the flights. In most cases they have flown over the Turkish encampment without accident and have dropped bombs with terrible results.

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Information from the Italian Press.

[Received from Maj. Gen. William P. Duvall, United States Army.]

[Clipping from special service of Corriere del la Sera, Tripoli, November 1, 1911.]

TURCO-ITALIAN WAR—FIRST LAUNCHING OF BOMBS FROM AEROPLANE—INTERESTING EXPERIMENT OF LIEUT. GAVOTTI—REACTION AGAINST YOUNG TURKS—AERIAL WAR—GAVOTTI HURLS SHELLS WHILE FLYING—FIRST TIME IN THE WORLD ARMY AEROPLANE HAS ATTACKED ENEMY.

Aerial hand grenades were added by Italy. These are of the type studied out for naval aviation, and are constructed at Spezia. They consist of a spherical steel shell, somewhat larger than an orange, and are filled with high explosives. An iron ball, that is loose within, strikes at the opportune moment, when the bomb touches the ground, against the fulminate, causing the explosion. This ball is held firm by a spring that is to draw out at the instant of the throw, and the pressure of the hand closes the small ring that keeps the ball immovable, in the brief moment passing between the extraction of the spring and the launching.

Two experiments made yesterday along the coast of the sea were perfectly successful; the firing worked exactly and the explosions riddled a wall with splinters.

This morning, Lieut. Gavotti, of the specialist company, took his toilet case into which he had placed four grenades. Fixed the closed case to the frame of his Etrich, put a bomb into one pocket, the exploding parts into another, and the plugs into a third. Then he started about 6 o'clock toward the Ainzara oasis, about 8 kilometers southeast of the outposts, where he knew there was an aggregation of the enemy.

In short, on the border of the oasis two bodies of about 1,500 Arabs extended with the front to the north; in the oasis were more men and droves of cattle. Circling at an elevation of 700 meters, the lieutenant took a bomb, placed it between his knees, attached the fulminate, and fixed the plug. He had to work with one hand only, because the inexact motor hindered him from maneuvering. Passing over a group he pulled the string with his teeth and hurled the shell over the right wing. For two seconds he followed the fall of the grenade through the celluloid bottom of the aeroplane; then he lost sight of it. He made a curve, when he perceived a large black cloud and fleeing men. He repeated the experiment over another group, but he does not know the result, because the speed of the aeroplane carried him beyond the target and the report of the explosions was not audible, as it was drowned by the jarring of the motor.

It will be necessary to operate with two aeroplanes; one for launching the bombs and the other behind to observe. But from the routing of the first group a great effect can be deduced, which will have also a decided moral influence during the battle. (Luigi Barzini.)

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RECONNOITERING WITH AEROPLANES—LIEUT. ROSSI DAMAGES THE APPARATUS.

PARIS, *November 2.*

The correspondent of the New York Herald telegraphs under date of yesterday evening concerning the events of yesterday:

Four army aviators, Capts. Piazza and Moizo and Lieuts. Gavotti and Rossi, have made reconnoissances to-day. At 3 kilometers distance from the Italian outposts, Lieut. Gavotti dropped four shells upon the hostile camp with best results. Capt. Piazza has related of having discovered many detachments of the adversary wandering about the outposts. Lieut. Rossi was speeding at the rate of 90 kilometers an hour, when he was obliged to descend unexpectedly by a breakdown in the motor. On touching ground, one of the wings of his Bleriot broke and the apparatus was seriously damaged.

It has been found that the Turkish battery which has been firing on Tripoli consists of four guns and not of two, as was first given. The position of the hostile battery was determined and destroyed with projectiles of the Carlo Alberto.

[Clipping from Corriere della Sera, Paris, Nov. 3.]

LAUNCHING BOMBS FROM AEROPLANES—FRENCH COMMENT.

With reference to the bombs thrown by aviator officers, the Gaulois writes:

Will The Hague conference counsel, perhaps, the abandonment of these formidable contrivances? We do not know, and on the other hand, the platonic decisions of the peaceful conference solely interest the weak Governments. In restraining one's self maybe some hypocrisy is wishing to limit the evils of war. War is not a duel in which conditions can be determined in advance. When two armies are close together humanity loses its rights and the one making the best use of its arms gains the victory. The more sanguine a war, the shorter is its duration.

If The Hague conference were able to establish a system of arbitration for the suppression of war, and have it accepted by all the powers, it would certainly be a great benefit to humanity; but from the moment that reunion of wise men contents itself with pouring out every year a great flow of fruitless eloquence, it can not be admitted that philanthropy had to have any idea about war. The machine with which the hostile soldier kills himself has therefore no importance, if not for those against whom it is used. In order to render war less frequent and more rapid, it is not necessary to attenuate the horrors, but, on the contrary, to exaggerate them, to terrify the enemy, to impute to them the greatest evil possible. This is the only formula that can eliminate war. It is a cruel law, but is the law.

[Clipping from Corriere della Sera, Rome, Nov. 3, 1911.]

THE FLYING ARTILLERYMAN.

Lieut. Gotti has inaugurated a new means of destruction, and because it can be adapted and encouraged, it is good that Italian courage had adapted it and that the Arabs and Turks have met with it. In the history of aviation, Lieut. Gavotti, with his four shells has taken a secure place, the position that belongs to the originators, the beginning of a chapter, the name that precedes all others.

But not of this principally is the kind of deep interest which the news of his achievement has stirred up in Italy, indeed, in the world, as the episode is brought out. The esthetics of this new exploit is quite different from that of the feats which we know of among military men. This is not a monument. This is not a man on horse with the sword drawn; this is not a man well placed upon a pedestal, taking aim with the rifle; but the culminating moment of his action is one of simplicity, we shall say, familiar, of common movements, which

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they represent here as a mechanic in his incommodious work—the work of flying death. Of such simplicity is our greater commotion in imagining the artillerist of the air; of such rudimental way, one might almost say archaic, as the printing from the first press. The flying artilleryman places a shell in one bag, in another the fulminates, and in a third the plugs; he carries in this manner, near him, like the small equipment of a small trade, the forces of death. They have had no time yet to invent a scientific bomb carrier in the appliances of an aeroplane. Lieut. Gavotti fills the modest pockets with some of the explosives, and he goes.

Under his flight swarms of the adversary form. He is perpendicularly above them for a few moments, because the imperfect flying machine does not permit him to remain poised in the air nor to slow down too much in the aerial course. He did not have his hands free; he was unable to maneuver. There above, high up, suspended in the fragile celluloid machine, with an unsteady motor, that could precipitate him in an instant into the midst of furious enemies, as a mutilated and bloody corpse upon which Arabian barbarity would rush, like made, for brutal outrages.

And he takes a missile from the pocket, places it between the knees (the left hand close to the flywheel); he attaches the fulminate, fixes the plug, and pulls the string with his teeth, then holding it in his fist, curved above a dizzy depth in space that separates him from earth, he lets it drop; immediately the free hand takes again strong control of the flying machine. And the aeroplane speeds through the air, that the buzzing of the motor sounds like the hoarse throat of a monstrous bird.

The aviator has added another danger to his others. He has death about him, beneath him, and now he carries it with him, parting from height—the bomb near the motor. But, beside the dreadful powder, the pulse is tranquil, and if the heavy throbbing of the motor is inexact, the heart, in its serene boldness which moves the machine, the man, and destiny, is accurate.

[Clipping from Corriere della Sera, Rome, Nov. 2.]

The picrate of potash bombs, with which Lieut. Gavotti has made the first military trial by throwing from an aeroplane upon the enemy in the Ain-Zara oasis, are the result of long studies and many experiments made by Lieutenant of the Navy Carlo Cipelli, of the torpedo boat *San Bartolomeo*.

Cipelli became a victim himself of his invention three years ago. While charging one of the bombs at the Viareggio practice ground, the terrible instrument of war exploded, killing the officer, his comrade Mazzuoli, and a workman of the practice ground.

AUSTRIA.

Although Austria does not possess as well developed an organized service as that of Germany and France, it is on the point of becoming a threatening factor. It possesses a frankly national type, A. Etrich, who makes good monoplanes. The Government has purchased some of these, and Italy has sent some into Tripoli. Besides this, Austria possesses a very pretty lot of French machines. The Austrians are

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showing themselves to be very proud of the successes of their officers during the maneuvers. Their schools at Weiner, Hensholdt, Fischamen, Goerz, Dola, and Aspern are much used and they will soon be employed by the pilots of the volunteer corps just created by the ministry of war. The Austrian Army has besides at its disposal three airships, one of which is a Lebaudy, one a Parseval, and one a Koesting. The last is furnished with a wireless outfit. (From speech of M. Adolphe Girod in French Chamber on bill No. 1656, looking to the reorganization of the aeronautical service in the French Army.)

[Orders for the Imperial and Royal Army, Part 36.]

PROVISIONAL ORGANIC REGULATIONS FOR THE AERONAUTIC SERVICE IN THE IMPERIAL AND ROYAL ARMY.

[From Abt. 5, No. 3670 vom Jahre 1911, Nermalverordimugs blatt fur das K: u. K: Heer, 36 Struk. By office of the military attaché, Vienna, Austria. Trans. No. 2469. War College Division 3826-98.]

ORGANIZATION.

The aeronautic service in the imperial and royal army is done by the detachment of aeronautics and the detachment of fortress balloons.

DESTINATION.

The duties of the detachment of aeronautics are as follows:

1. To study and examine the development of aeronautics.
2. To train the personnel necessary for the aeronautic service and to keep records of the names and whereabouts of the trained men.
3. To provide, test, and on behalf of the war office, take over the entire necessary aeronautic material, further partly to manufacture it and to preserve and superintend the matériel of the detachment of aeronautics.
4. To cooperate in the treatment of all questions concerning technical details and organization of the aeronautical service including the drawing up of orders, regulations and instructions dealing with this subject.
5. To keep a record of the military and private balloons and flying machines, and finally—
6. To keep records of aeronautic affairs of foreign states.

The organization of the detachment of fortress balloons as well as its duties are contained in the organic regulations of the imperial and royal siege artillery. (A-1, y (2)).

DETACHMENT OF AERONAUTS.

The detachment of aeronauts is divided into the commander, the detachment of instruction and the technical detachment; to the latter the gas factory, the workshops, and the storehouse containing the technical equipment are assigned.

The commander of the detachment of aeronauts is in command over all parts of the latter. He has to squad and employ the personnel and to direct and superintend the whole service. The adjutant keeps the record of men, and the technical adjutant that of the vehicles.

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The detachment of instruction has to train the personnel necessary for the aeronautic service, to man the vehicles (balloons, flying machines) which are put into commission and is also divided into the balloon and the flying machine skeleton formations.

The technical detachment has to manufacture, preserve, administer, and put to account the technical equipment and to work the gas factory and the workshops.

An officer of the technical detachment superintends the storehouse containing the technical equipment.

II.

The commander of the detachment of aeronauts is a field officer.

PEACE FOOTING.

The peace footing of the detachment of aeronauts consists:

(*a*) Of a number of persons who are permanently detailed.

(*b*) Of a number of men who are provisionally attached to it.

The strength of the peace footing is fixed by the war office by special orders.

Officers who are permanently detailed to the detachment of aeronauts are counted among the supernumeraries by their original regiments.

Persons who are provisionally attached are counted in the regimental rolls.

III.

SUBORDINATION.

The detachment of aeronauts is in every respect subordinated to the war office by means of the brigade of communication troops.

RIGHTS AND SUBSTITUTION.

The commander of the detachment of aeronauts has the rights of a regimental commander. Regarding his substitution, the respective provisions of the service regulations for the imperial and royal army hold good.

According to requirements, officers of the detachment of aeronauts are detailed by the war office to detachments of fortress balloons in order to examine the practical capability of officers of detachments of fortress balloons in aeronautic service and to test the serviceableness of the technical equipment of these detachments. These officers, through the commander of the detachment of aeronauts, have to report to the war office about their observations.

IV.

ADMINISTRATIVE REGULATIONS.

The detachment of aeronauts forms an independent body as regards accounts and clothing with an administrative and a financial commission. The accounts are to be submitted to the commissariat department of the second army corps and are audited by the auditors of the war office.

The financia commission consists of the deputy commander and a second officer, the administrative commission of the deputy commander and the chief accountant.

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The administrative commission keeps the roll of the detachment.

A special commission consisting of the commander and two officers of the technical detachment administers and puts to account the whole equipment and material belonging to the detachment of aeronauts.

Technical, administrative, and economic administrative inspections of the detachment of aeronauts sometimes take place by the direction of the war office.

Supplements 1, 2, and 3.—In conformity with supplements 1 to 3, both the detachment of aeronauts and the detachments for fortress balloons have to keep registers concerning the individual air vehicles (balloons, flying machines). The latter detachments send their folios of registers to the detachment of aeronauts every year by January 10, thus enabling it to correct or complete its own registers.

V.

COMPLETION OF THE PERSONNEL.

Officers specially trained or qualified are permanently detailed or provisionally attached to the detachment of aeronauts by their regiments.

The men are either permanently transferred from regiments to the detachment or provisionally attached to it, according to orders of the war office.

It is a principle that such men are not transferred from the regiments before the first military training of recruits is over.

Reservists of the detachment are either:

(*a*) Men who during their active service were permanently detailed from their regiments to the detachment of aeronauts, or

(*b*) Men and officers who have been transferred according to instructions from the war office.

VI.

CLOTHING, EQUIPMENT, ARMS.

All officers and men of the detachment of aeronauts and of the detachments of fortress balloons who are employed in active aeronautic service wear on their collar facings badges in the shape of a balloon.

In general the officers wear the uniforms and equipment of those regiments in which they are counted among the supernumeraries or the provisionally detailed persons, but both in war and in peace they may also wear laced shoes and leather leggings; those persons who wear gala headgears and tunics as field equipment may use caps and blouses and overcoats instead of fur coats.

For the time being all the men wear the uniforms and equipments of their original regiments.

They may also wear those articles of equipment which are required by the aeronautic service and approved of by the war office.

VII.

TRAINING.

The war office will every year issue special instructions for the training of the whole aeronautic personnel.

The training is, moreover, regulated by the other special orders and instructions which are in force.

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MISCELLANEOUS INFORMATION.

AERONAUTICS.

[From the Scientific American, Mar. 16, 1912.]

Over 101 miles in an hour on a French monoplane.—Vedrines's latest record with his Deperdussin monoplane is 101¾ miles in one hour's time above the aerodrome at Pau. This new record was made on March 1 with a Gnome motor of 140 horsepower. The best previous record was 88¼ miles in an hour, made by the same pilot on January 13, in a 100-horsepower machine of the same make. It is surprising that so small an increase of horsepower apparently should produce such a decided difference in speed. This only goes to show, however, that extremely high speeds can be obtained without excessive horsepower, provided the head resistance of the aeroplane is reduced as much as possible. In all probability at the international cup race in this country next summer a speed in the neighborhood of 150 miles an hour will be developed. France, Belgium, England, Switzerland, and Holland will compete in this race, and each country will probably send three machines.

A record flight from London to Paris.—On March 7 Henri Salmet, the chief pilot of the Bleriot school at Hendon, England, left the aerodrome in his monoplane and flew to Paris without a stop—a distance of 237 miles—in 2 hours and 57 minutes. Because of a strong north wind he was able to average over 75 miles an hour for the entire distance, which is about the same as from New York to Boston—a stretch that the ordinary expresses require six hours to traverse. The aviator traveled at a height of 6,000 feet—above the clouds—and steered by compass the entire distance. He alighted at the aerodrome at Issy-les-Moulineaux at 11 a. m., and shortly after 2 p. m. started on the return trip. In this he was not so fortunate, however, as against the strong head wind he made but slow progress. Overtaken by darkness, he was obliged to descend at Berck, 110 miles from Paris, after fighting the heavy wind for four hours. The next day he expected to continue back to Hendon. In his flight to Paris he beat by 71 minutes the time of Prier, his predecessor at Hendon, who made the same flight last summer. In view of the coal strike in Great Britain making travel to Paris uncertain, Salmet tried the aeroplane as a means of transport, and found it extremely satisfactory.

THE R. E. SCOTT PROJECTILE-DROPPING DEVICE.

[By Lieut. T. DeW. Milling, United States Army.]

This device for dropping bombs from aeroplanes while in flight was invented by R. E. Scott, Esq., late first lieutenant, Coast Artillery, United States Army. It was tried out at College Park, Md., during the month of October, 1911, and the experiments at that time covered a period of about a week. Lieut. Milling, Fifteenth Cavalry, acted as pilot on these experimental flights, and Mr. Scott accompanied him on all but one flight. On this occasion Sergt. Idzorek, Signal Corps, took Mr. Scott's place because his lighter weight made him better fitted for the work and because Mr. Scott desired to see how accurately a novice could use the device. The

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apparatus used weighed 64 pounds. This weight can be reduced to 40 pounds without lessening its usefulness.

Number 1 of the accompanying illustrations shows a front view of the bomb-carrying device and also shows the rectangular gimbals and circular encasement of the whole device. The telescope used for determining the forward speed of the machine and for laying off the proper sighting angle is also clearly visible.

Illustration number 2 shows a side view of the apparatus. In this the vertical arc on which the telescope is movable is clearly shown. The form and method of carrying the projectiles is also obvious.

The bombs used in these experiments weigh 18 pounds each. They are carried and released in pairs. This is necessary because the mechanical construction of the apparatus demands that the telescope be swung in the middle of the gimbals, and this will be disturbed unless balancing weights are used.

The primary obstacle to good target practice from a moving aeroplane is the well-known difficulty of determining when such a craft is directly above a given point on the ground. That difficulty forces us to immediately drop all idea of a system based on lineal measurements and forces upon us the adoption of a fire-control system based on angular coordinates.

It is clear that there exists a definite angular relation between the target, the path followed by the aeroplane, and the path followed by a projectile falling from the aeroplane.

The primary coordinates of such a system are: (1) The altitude of the aeroplane; (2) the forward speed of the aeroplane in its relation to the target; and (3) the weight and shape of the projectile.

Mr. Scott has solved the problem of measuring the forward speed of the aeroplane as follows: He used a telescope mounted on gimbals, so as to maintain its horizontal position, and movable vertically along a graduated arc. By setting the telescope to read an angle of 45 degrees and snapping a stop watch on an object which lies in the line of the sight of the telescope produced, and then swinging the telescope so as to point vertically downward, we can, by snapping the stop watch a second time as the sighting point again comes into the field of vision, ascertain the exact time it has taken the machine to cover the distance measured by 45° of arc. Our altitude is known by reading a barometer. We then have two known angles of the right-angle triangle and one known side, viz., the altitude. By a set of tables, already made out, we can determine our forward speed.

Now all of this is done as a preliminary to actually dropping the projectile. After we have the forward speed and the altitude we simply consult another set of previously prepared tables and read from those tables an angle. This angle shows the proper point of drop to hit another point on the ground somewhere in advance of the aeroplane. After picking the angle out of the table we set our telescope to read the known angle, and when the line of sight produced is on the objective we release or "trip" the projectile.

The first difficulty encountered by Mr. Scott, after having theoretically solved this problem, and after having actually constructed his range-finding and bomb-carrying device, was the obtaining of data from which he could compute the angular table for determining the instant of drop. Having made a tentative table from the best obtainable data, practical tests were made at a height approximating

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400 feet from a Wright biplane. It was found that the first miss was an "over" of 62 feet. As Mr. Scott felt certain that he had used the apparatus and table accurately, he corrected the table with the result that his second miss was to the right about 32 feet. Sergt. Idzorek then went aloft as operator of the device and his miss was an over of about 11 feet. It was generally agreed that the second drop of Mr. Scott's missed the target because of the wind currents which blew the aeroplane out of its course; and that the miss of Sergt. Idzorek was due to his lack of experience in handling the device.

As a result of these experiments, it was the concensus of opinion among the army aviators who witnessed them, that the device is a complete success, and that the problem now is one of target practice only. It is also agreed that the skill of the aviator will bear no small part in the successful hitting of targets, and that a more than reasonable degree of accuracy can be obtained from altitudes exceeding 3,000 feet, below which height it is not thought that an aeroplane will be sufficiently immune from hostile fire to warrant its use.

It was with regret that the officers of our aviation school saw Mr. Scott discontinue his experiments at College Park, before he had attained effective altitudes, but inasmuch as the Michelin had offered prizes to inventors of bomb-dropping devices, which prizes aggregated $30,000, they realized that the inducements abroad were were such as to preclude his longer wasting time at home, where patriotism alone could not contribute sufficient material inducement to his further stay.

NOTE.—Mr. Scott is now in France, and in the last four weeks has been conducting experiments. Trials have taken place in the presence of a military committee presided by Commander Bouttieaux and Capt. Dolfus and proved very conclusive. The projectiles were dropped into a target of 20 meters diameter from altitudes varying from 200 to 1,000 meters. From 200 meters the projectiles fell to within 1 meter 50 and 2 meters of the center target and sank in the ground to a depth of 1 meter 20; higher than 1,000 meters the projectiles fell out of the target, but were in straight line with the center of the target. (Editor.)

DROPPING WEIGHTS FROM AEROPLANES.

At St. Louis, Mo., Bert. Berry, parachute leaper, and Anthony Jannus, aviator, conducted some experiments in dropping weights. The first trial was made by dropping an anvil, weighting 54 pounds, a parachute weighing about 28 pounds; total weight dropped was about 82 pounds. The weight of Berry was 165 pounds, and of Jannus 168 pounds.

On March 1 Berry dropped from an aeroplane, at a height of more than 1,000 feet, landing safely without seriously disturbing the flying of the aeroplane. The same experiment was again repeated on March 10.

So far as military aviation is concerned, the experiments are of interest in showing that a considerable weight can be dropped from aeroplanes without injuring the machine.

It appears from the report that when Berry dropped, the combined weight of himself and the parachute was 193 pounds. At present the Signal Corps aeroplanes carry easily, in addition to the aviator and the necessary supply of fuel, a weight of at least 300 pounds, so that that amount of explosives could be dropped in two units weighing 150 pounds each, or in any number of units desired provided they did not exceed that weight.

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SECOND.—*The extent and cost of our Government's equipment in aeroplanes or other air craft now being used in any capacity by the War Department and the nature of the instruction in aeronautics which is being given to its Army officers and enlisted men.*

PRESENT AERIAL EQUIPMENT OF THE UNITED STATES.

Referring to the second paragraph of the attached H. R. 448, relative to the cost of equipment in aeroplanes or other air craft now being used by the War Department, the following is submitted:

Balloon equipment	$7,940.00	
Balloon, dirigible	6,750.00	
		$14,690.00
Hydrogen generating plant at Fort Omaha	36,276.74	
Hydrogen house (Quartermaster's property)	7,650.85	
Balloon house (Quartermaster's property)	35,996.90	
		79,924.49
Total balloon equipment		94,614.49
Six aeroplanes now in use	$31,025.00	
Six aeroplanes, under orders	36,980.00	
		68,005.00
Maintenance of aeroplanes	15,916.76	
Operation of aeroplanes	8,286.30	
		24,203.06
Total aeroplane equipment		92,208.06

In addition to the above the Signal Corps purchased, from funds allotted by the Board of Ordnance and Fortifications, the first Wright aeroplane at a cost of $30,000. This type of aeroplane is now obsolete, and the machine is in possession of the Smithsonian Institution.

The above statement shows that there is still $32,000 left of the $125,000 appropriation for the current year. This is to be expended in the maintenance and operation of present aeroplanes for the months of April, May, and June, and for the purchase of such additional machines before the 1st of July as may be possible out of this sum. It is expected that four additional machines can be purchased, which will give the Government a total of 16 aeroplanes by the 1st of July next.

BALLOONS.

Before the development of the aeroplane the War Department had been engaged in the development of balloons. The foregoing statement shows that there was expended for balloon equipment, which included free and captive balloons, the sum of about $8,000, and for a small dirigible, which was intended for the preliminary training of officers and enlisted men, the sum of about $7,000.

With that development in view a hydrogen generating plant, a tank for storing gas, and a balloon house were erected at Fort Omaha, Nebr., at an expense of about $80,000. This plant is still in most excellent order and is available for filling tubes with compressed gas for use with captive balloons, which are still regarded as a valuable adjunct to the military equipment. There are at present on hand 4 captive balloons and 327 tubes for compressing the gas for transportation. Owing to the very large cost of captive balloons and the extraordinary development of aeroplanes, no progress has been made whatever in aerostation during the last two years. The War Depart-

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ment has at present not formulated any plans for the extension of this service, but as most of the principal foreign Governments are buying and using balloons of various types it seems quite probable that in the near future the matter will have to be considered, and the gas-generating plant and balloon house at Fort Omaha stands as a valuable asset in this connection; but the Department at present has no definite plans.

There are at present attached to the Signal Corps Aviation School, for aviation duty, five instructed officers, one of whom will be relieved on May 1, and five officers under instruction. There are two other officers of the Army not on duty with the Signal Corps Aviation School who have been trained in aeronautics; one is in Manila and the other is on duty with the Organized Militia.

The aviation school, which was sent to Augusta, Ga., for the winter, has now returned to College Park, Md., and it is expected that with the long season ahead of the school and the purchase of new and more powerful machines that a very considerable advance can be made during the coming summer and autumn in the development of machines and the instruction of officers, not only of the Regular Army but also of the National Guard. There is a general and deep interest in aeronautics manifest throughout the National Guard of the different States. One officer of the guard is already under instruction at College Park.

APPLICATION FOR DETAIL TO MILITARY AVIATION SERVICE.

Station.....
Date.....

The ADJUTANT GENERAL, UNITED STATES ARMY,
Washington, D. C.
(Through military channels.)

SIR: The undersigned hereby applies for assignment to duty at the Signal Corps Aviation School for instruction as an aviator:

Age ——. Weight (without clothes) —— pounds. Married or single ——. Graduate of technical schools or colleges ——. Any particular knowledge or ability possessed by applicant which would especially fit him for aviation duty ———. If any experience in the following, so state: Gas engines; practical telegraphy (words per minute, receiving); knowledge of wireless telegraphy; practical photography; practical topographical work (map reading or map making). ———.

Surgeon's certificate of physical examination is inclosed.

Very respectfully, ——— ———.

QUALIFICATIONS FOR MILITARY AVIATORS.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER,
Washington.

The following "Qualifications for military aviators," approved by the Secretary of War, are inclosed for your information:

Military aviators must be commissioned officers of the Regular Army or Organized Militia.

All officers who qualify as military aviators according to the conditions enumerated below will receive certificates from the Secretary of War covering such qualification and will be carried on the Army Register as "military aviators," with the date of qualification in each case.

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To obtain such certificate the candidate must fulfill the following requirements:

1. Attain an altitude of at least 2,500 feet recorded by a suitable barograph.
2. Make a cross-country flight of at least 20 miles (10 miles going and 10 miles returning) at a minimum height of 1,000 feet.
3. Make a flight of at least 5 minutes duration with the wind blowing at the rate of at least 15 miles per hour (indicated by an anemometer).
4. Carry a passenger to a height of at least 500 feet and on landing come to rest within 150 feet of a previously designated point, the engine being completely cut off prior to touching the ground. The combined weight of passenger and pilot must be at least 250 pounds.
5. Execute a volplane from an altitude of at least 500 feet with the engine completely cut off, and cause the aeroplane to come to rest within 300 feet of a previously designated point on the ground.
6. Make a military reconnoissance flight of at least 20 miles for the purpose of observing and bringing back information concerning features of the ground or other matter which the candidate is instructed to report upon. This flight must be made at an average altitude of 1,500 feet.

The tests for "military aviators" will be conducted under the direction of the Chief Signal Officer of the Army at such times and places and before such boards of officers as may be convenient. The names of officers who qualify and the date of such qualification will be reported to The Adjutant General of the Army.

Physical Examination of Candidates for Aviation Duty.

War Department,
Office of the Chief Signal Officer,
Washington.

All candidates for aviation duty shall be subjected to a rigorous physical examination to determine their fitness for such duty.

Examination as to physical qualifications will conform to the standard required for recruits, except as stated below. The rules for the examination of recruits as published in General Order 66, War Department, 1910, will be adhered to.

ADDITIONAL PHYSICAL REQUIREMENTS AND EXAMINATION.

The visual acuity without glasses should be normal. Any error of refraction requiring correction by glasses or any other cause diminishing acuity of vision below normal will be a cause for rejection. The candidate's ability to estimate distances should be tested. Color blindness for red, green, or violet is a cause for rejection If the candidate wears glasses, so state, and give the necessity therefor.

The acuity of hearing should be carefully tested and the ears carefully examined with the aid of the speculum and mirror. Any diminution of the acuity of hearing below normal will be a cause for rejection. Any disease whatever of the middle ear, either acute or chronic, or any sclerosed condition of the ear drum resulting from a

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former acute condition will be a cause for rejection. Any disease of the internal ear or of the auditory nerve will be a cause for rejection.

The following tests for equilibrium to detect otherwise obscure diseased conditions of the internal ear should be made:

1. Have the candidate stand with knees, heels, and toes touching.
2. Have the candidate walk forward, backward, and in a circle.
3. Have the candidate hop around the room.

All these tests should be made with the eyes open and then closed, on both feet and then on one foot, hopping forward and backward, the candidate trying to hop or walk in a straight line. Any deviation to the right or left from the straight line or from the arc of the circle should be noted. Any persistent deviation, either to the right or left, is evidence of a diseased condition of the internal ear, and nystagmus is also frequently associated with such condition. These symptoms, therefore, should be regarded as cause for rejection.

The organs of respiration and the circulatory system should be carefully examined. Any diseased condition of the circulatory system, either of the heart or arterial system, is a cause for rejection. Any disease of the nervous system is a cause for rejection.

The precision of the movements of the limbs should be especially carefully tested, following the order outlined in paragraph 17, General Order 66, War Department, 1909.

Any candidate whose history may show that he is afflicted with chronic digestive disturbances, chronic constipation, or indigestion, or intestinal disorders tending to produce dizziness, headache, or to impair his vision should be rejected.

The last five aeroplanes contracted for by the War Department were required to fill the following conditions:

REQUIREMENTS FOR WEIGHT-CARRYING MILITARY AEROPLANE.

1. It must carry two persons, with the seats so arranged as to permit of the largest possible field of observation for both.
2. The control must be capable of use by either operator from either seat.
3. The machine must be able to ascend at a minimum rate of 2,000 feet in 10 minutes while carrying a weight of 450 pounds and the amount of fuel stated in paragraph 4.
4. The fuel supply must be sufficient for at least four hours of continuous flight.
5. It must be easily transportable by road, rail, etc., and easily and rapidly assembled and adjusted.
6. The starting and landing devices must be part of the machine itself, and it must be able to start without outside assistance.
7. The engine must be capable of throttling to run at reduced speed.
8. The engine will be subject to an endurance test in the air of two hours continuous flight.
9. The aeroplane must develop a speed in the air of at least 45 miles an hour.
10. The machine must be capable of landing on and arising from plowed fields.
11. The supporting surfaces must be of sufficient area to insure a safe gliding angle in case the engine stops. This will be determined by a test during calm atmospheric conditions; at an altitude of 1,000

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feet the engine will be entirely cut off and a glide made to the ground. The horizontal distance between position of cut-off and landing must be at least 6,000 feet or at other altitude of the same ratio.

NOTE.—In case the weight-carrying capacity is increased to 600 pounds, the minimum speed may be reduced to 38 miles an hour and the climbing power diminished to 1,600 feet in 10 minutes.

SPECIFICATIONS FOR A LIGHT SCOUTING MACHINE.

1. It must carry one person, with seat so arranged as to permit of largest possible field of observation.
2. The machine must be able to ascend at the rate of 1,800 feet in three minutes, while carrying fuel for one hour flight.
3. The fuel reservoir must be large enough to hold fuel sufficient for a three-hours flight.
4. The machine must be easily transportable by road, rail, etc., and easily and rapidly assembled and adjusted.
5. The starting and landing devices must be part of the machine itself, and must be able to start without outside assistance.
6. The machine must be capable of throttling to run at reduced speed.
7. The engine will be subject to an endurance test in the air of two hours continuous flight.
8. The aeroplane must develop a speed in the air of at least 65 miles an hour.
9. The machine must be capable of landing on and arising from plowed fields.
10. The supporting surfaces must be of sufficient area to insure a safe gliding angle in case the engine stops. This will be determined by a test during calm atmospheric conditions; at an altitude of 1,000 feet the engine will be entirely cut off and a glide made to the ground. The horizontal distance between the position of cut-off and landing must be at least 1 mile or at other altitude of the same ratio.

THIRD.—*The plans now contemplated by the War Department for increasing the present equipment of aeroplanes, hydro-aeroplanes, and other air craft for the purposes of warfare and national defense, together with recommendations for such legislation as will adequately provide for such service with reference both to increasing the number of Army officers of the Signal Corps who may be detailed for aviation service as well as the establishment of additional schools of instruction and the building up of our air fleet commensurate with the necessity of properly maintaining our military status among the nations of the world.*

PLANS FOR THE DEVELOPMENT OF AVIATION.

The plans of the War Department for increasing the present equipment of aeroplanes, hydro-aeroplanes, and other air craft for war purposes and the national defense; the employing and training of commissioned and enlisted personnel; distribution of aeroplanes, hydro-aeroplanes, organization of units, contemplate the following:

1. Five conveniently located training schools, known as "centers of aviation," to be located, one on the Atlantic coast, one on the

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Pacific coast, one on the Great Lakes, one on the Gulf coast, and one at some central interior point; and as many auxiliary centers as it may be possible to organize, with a view to having a school of instruction in each State. Each center will comprise sheds, workshops, storerooms, and barracks, and will be both a place of instruction and a place of concentration for the squadrons. These "centers of aviation" are designed to train officers of the Regular Army and Organized Militia as aviators, to train enlisted men as aeroplane mechanics, to investigate and test aviation devices, to study meteorology as applied to aviation, wireless telegraphy as applied to aviation, military topography, sketching and reconnoissance from air craft, the dropping of projectiles from air craft, the use of small arms and machine guns from air craft, the design of military air craft, and all other matters tending to improve the military aviation service.

NOTE.—While the scheme outlined in paragraph 1 is that toward which the War Department desires to work, it is not intended to establish new posts or aviation fields for this purpose. The field at College Park, Md., now in use and such existing posts and buildings as are available and suitably located will be utilized and the scheme developed as personnel and matériel become available.

2. The organization of three aviation squadrons as the complement for one field army of Regular Troops, this being an allowance of one squadron for each division (2) and one for the headquarters of the field army. It is expected to specialize for each field army a company or squadron of extra powerful machines for long-distance reconnoissance, and to also specialize a number of machines for use in connection with the Field Artillery.

3. The organization of two squadrons for use in the Philippine Islands.

4. The organization of one squadron for use in Hawaii.

5. The organization of one squadron for use in Panama.

6. The organization of aero units for use at 14 groups of coast-defense stations in the United States, the equipment for these 14 stations not to be less than the equivalent of eight squadrons.

7. *Organized Militia.*—All mobile troops in addition to one field army to be provided with aviation service from the Organized Militia, with the assistance of the staff of the five training schools ("aviation centers"); the allowance of aeroplanes to be in the same proportion as for the regular establishment; i. e., one squadron for each division of troops.

The following tables show the personnel and matériel for the regular establishment organization and the composition of aerial units:

Organization proposed for aeroplane units.

SECTION.

A section shall consist of—

Personnel—

2 aviators, commissioned officers.
1 mechanic, enlisted.
4 assistants, enlisted.

Total commissioned	2
Total enlisted	5

Matériel—

1 aeroplane.

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PLATOON.

A platoon shall consist of two sections, viz:
Personnel—
Commissioned..... 4
Enlisted..... 10
Matériel—
2 aeroplanes.

COMPANY.

A company shall consist of two platoons, viz:
Personnel—
8 commissioned.
20 enlisted, and in addition—
1 commissioned.
1 property sergeant, enlisted.
1 clerk, enlisted.
1 cook, enlisted.
1 assistant cook, enlisted.
Total commissioned..... 9
Total enlisted..... 24
Matériel—
4 aeroplanes.

SQUADRON.

A squadron shall consist of two companies, viz:
Personnel—
1 major.
18 captains or lieutenants.
48 enlisted men.
Matériel—
8 aeroplanes.

The squadron is the aviation unit, and to each squadron must be furnished trucks for the transportation of the machines, tractor automobiles for hauling the trucks and transporting the crew, aeroplane tents, repair tools, spare parts, and additional supplies of gasoline.

It will also be necessary to have a freight automobile containing complete spares and reserve supplies, which will also be used as a repair shop. The number of tractors necessary can not be determined until after special trials.

Organization for regular establishment.

	Squadrons.	Aeroplanes.	Colonels.	Lieutenant colonels.	Majors.	Captains or lieutenants.	Total enlisted.
For administration of aviation service	.....	.....	2	2	.....	.....	.....
1 field army	3	24	.....	.....	3	54	144
Philippine Islands	2	16	.....	.....	2	36	96
Hawaii	1	8	.....	.....	1	18	48
Panama	1	8	.....	.....	1	18	48
Coast defense, U. S. Army	8	64	.....	.....	4	144	384
Total	15	120	2	2	11	270	720

There are at present allowed by the War Department, for aviation duty, 10 officers, and this number can not be materially increased without further legislation authorizing more officers for the Signal Corps.

In connection with aviation, especially in its application to the collection of information, the wireless sections and field companies of the Signal Corps are essential auxiliaries.

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For the purpose of providing officers for these purposes, the Secretary of War, on March 14, recommended as a first increment, to the Military Committee of the House of Representatives, the following bill:

A BILL To provide military aviators for the Army, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there are hereby added to the Signal Corps of the Army, one colonel, twelve captains, twelve first lieutenants, and thirty second lieutenants.

SEC. 2. That the original vacancies thus created shall be filled first by promotion of officers holding permanent appointments in the Signal Corps according to seniority after the examination now required by law, and second, by details to the Signal Corps from the line of the Army from the grade in which the vacancy exists and in accordance with the provisions of section twenty-seven of the act approved February second, nineteen hundred and one.

SEC. 3. That an increase of twenty per centum in the pay of their grade shall be granted to all officers of the Regular Army of the United States who are now or may hereafter be designated as military aviators and charged with the actual operation of aeroplanes or other flying devices: *Provided,* That the increased pay shall be drawn only while serving on such duty.

SEC. 4. That an increase of twenty per centum in the pay of his grade shall be granted to each enlisted man of the Regular Army of the United States who is now or may hereafter be detailed on aviation duty by the Secretary of War and who shall have attained the rating of aeroplane mechanician: *Provided,* That not to exceed one enlisted man for each aeroplane actually operated by the Government shall receive a rating as aeroplane mechanician.

SEC. 5. That the Secretary of War be, and he is hereby, authorized to formulate all necessary regulations and requirements to govern the rating of military aviators and aeroplane mechanicians; and such rating shall be certified by the Secretary of War in the form of diplomas for the rating of military aviators and warrants for the rating of aeroplane mechanicians.

SEC. 6. That there shall be paid to the widow of any officer or enlisted man who dies as the result of an aviation accident in line of duty, or to any other person previously designated by him, an amount equal to six months' pay at the rate received by him at the time of his death, in addition to the amount provided to be paid by the act approved May eleventh, nineteen hundred and eight.

This bill provides for the personnel of the Signal Corps 2 colonels, 2 lieutenant colonels, 6 majors, 30 captains, 30 first lieutenants, and 30 second lieutenants.

In order to further carry out in a measure the plans proposed in this report, it is recommended, as a second increment, that there be added to the number provided for in this bill 1 colonel, 1 lieutenant colonel, 3 majors, 15 captains, 15 first lieutenants, and 15 second lieutenants, and an increase of 600 in the enlisted strength, to be in grades according to the present proportion of noncommissioned grades.

In foreign armies it is regarded as one of the essentials that the officers instructed shall be from all branches of the service. The War Department is thoroughly in accord with this view in training officers from the various branches of the service that they may keep in mind the special requirements of machines for use in the branch of the service to which they belong. The recommendations made above provide for this, as the officers detailed for duty to the Signal Corps are selected from the Army at large.

In order to develop aviation it requires two essential things, namely, money and officers and men; either one of these without the other brings all adequate development to a standstill.

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 725.

AMENDMENT TO IMMIGRATION ACT OF 1907.

LETTER

FROM

THE SECRETARY OF COMMERCE AND LABOR,

GIVING

DEPARTMENT VIEWS ON H. R. 19545, A BILL RELATING TO THE IMMIGRATION ACT OF 1907.

MAY 1, 1912.—Referred to the Committee on Immigration and Naturalization and ordered to be printed.

DEPARTMENT OF COMMERCE AND LABOR,
BUREAU OF IMMIGRATION AND NATURALIZATION,
Washington, April 25, 1912.

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

SIR: I have the honor to refer to H. R. 19545, being a bill to amend section 17 of the immigration act of 1907, copy of which was referred to this department for comment and recommendation by the chairman of the Committee on Immigration and Naturalization on the 18th instant. The following comment is offered:

The apparent effect of the clause reading "such medical officers shall make recommendations regarding the facilities needed and shall be responsible for the efficiency of this part of the medical examination of arriving aliens" would be to establish at the larger ports of entry for aliens a division of medical officers separate and distinct from the staff of the chief medical examiner, which division would have absolute authority over the examination of aliens for mental defects. If this situation were brought about, I am apprehensive lest the result would prove unfortunate, as divided authority and responsibility would be created where a centralization of authority and responsibility would seem to be not only desirable but essential.

With reference to the provision for the reimbursement by the Immigration Service of the Public Health and Marine-Hospital Service for expenditures incurred in carrying out the medical inspection of aliens, attention is respectfully invited to a similar provision contained in section 17 of the immigration act of February 20, 1907 (34 Stat., 904), and to the sundry civil appropriation act approved

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March 4, 1909 (under the caption "Public Health and Marine-Hospital Service," 35 Stat., 969), repealing this provision and including in the appropriation for the Public Health and Marine-Hospital Service an amount to cover the medical inspection of aliens. Unless it is intended to revive the former system, the provision in question was quite probably incorporated in the bill under discussion through an inadvertence.

The remainder of the bill, so far as it goes, appears to be identical with section 16 of the general immigration bill (S. 3175), which passed the Senate last week.

Permit me to suggest, by way of conclusion, that perhaps the Surgeon General would be able and glad to make some suggestions in connection with this bill.

Respectfully,

CHARLES NAGEL, *Secretary*.

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 730.

CHARGES FILED AGAINST JUDGE ROBERT W. ARCHBALD.

MESSAGE

FROM THE

PRESIDENT OF THE UNITED STATES,

TRANSMITTING

INFORMATION RELATIVE TO CERTAIN PAPERS IN CASE OF HON. ROBERT W. ARCHBALD, JUDGE OF UNITED STATES COMMERCE COURT.

MAY 4, 1912.—Read, referred to the Committee on the Judiciary, and ordered to be printed.

To the House of Representatives:

I am in receipt of a copy of a resolution adopted by the House on April 25, reading as follows:

Resolved, That the President of the United States be, and he is hereby, requested, if not incompatible with the public interest, to transmit to the House of Representatives a copy of any charges filed against Robert W. Archbald, associate judge of the United States Commerce Court, together with the report of any special attorney or agent appointed by the Department of Justice to investigate such charges, and a copy of any and all affidavits, photographs, and evidence filed in the Department of Justice in relation to said charges, together with a statement of the action of the Department of Justice, if any, taken upon said charges and report.

In reply, I have to state that, in February last, certain charges of improper conduct by the Hon. Robert W. Archbald, formerly district judge of the United States court for the middle district of Pennsylvania, and now judge of the Commerce Court, were brought to my attention by Commissioner Meyer of the Interstate Commerce Commission. I transmitted these charges to the Attorney General, by letter dated February 13, instructing him to investigate the matter, confer fully with Commissioner Meyer, and have his agents make as full report upon the subject as might be necessary, and,

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should the charges be established sufficiently to justify proceeding on them, bring the matter before the Judiciary Committee of the House of Representatives.

The Attorney General has made a careful investigation of the charges, and as a result of that investigation has advised me that, in his opinion, the papers should be transmitted to the Committee on the Judiciary of the House to be used by them as a basis for an investigation into the facts involved in the charges. I have, therefore, directed him to transmit all of the papers to the Committee on the Judiciary; but in my opinion—and I think it will prove in the opinion of the committee—it is not compatible with the public interests to lay all these papers before the House of Representatives until the Committee on the Judiciary shall have sifted them out and determined the extent to which they deem it essential to the thoroughness of their investigation not to make the same public at the present time. But all of the papers are in the hands of the committee and, therefore, within the control of the House.

WM. H. TAFT.

THE WHITE HOUSE, *May 3, 1912.*

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 731.

RAILWAY LINES ENTERING UNITED STATES.

LETTER

FROM

THE SECRETARY OF COMMERCE AND LABOR,

GIVING DEPARTMENT VIEWS OF H. R. 19544.

MAY 4, 1912.—Referred to the Committee on Immigration and Naturalization and ordered to be printed.

DEPARTMENT OF COMMERCE AND LABOR,
Washington, May 2, 1912.

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

SIR: Answering a letter addressed to me under date of April 29 by Hon. John L. Burnett, chairman of the Committee on Immigration and Naturalization of the House of Representatives, and in compliance with rule 41 of the House Rules, I beg to advise you, for Mr. Burnett's information, that this department believes the exception in the case of "railway lines entering the United States from foreign contiguous territory," contained in section 9 of the immigration act of February 20, 1907, and retained in the amendment proposed to be made to said section by H. R. 19544, reported favorably to the House by the committee mentioned under date of April 3, 1912, should not be eliminated from the law.

In view of the close and extensive commercial relations between the United States and Canada and Mexico, respectively, and the extensive travel on the various railways crossing the land boundaries, the department believes that it would be impracticable for such railway lines, at least without most seriously interfering with travel and business, to enforce with respect to aliens applying to them for transportation a medical examination of the thorough and detailed nature which they would have to make in order to protect themselves against the fine, and that therefore such legislation would be unreasonable and inadvisable.

Respectfully,

CHARLES NAGEL,
Secretary.

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 735.

IMMIGRATION OF ALIENS.

LETTER

FROM

THE SECRETARY OF COMMERCE AND LABOR,

IN REPLY

TO A COMMUNICATION FROM THE CHAIRMAN OF THE COMMITTEE ON IMMIGRATION AND NATURALIZATION, GIVING AN OPINION AS TO A PROPOSED AMENDMENT TO THE BURNETT BILL, PENDING IN THE HOUSE, AND THE DILLINGHAM BILL, WHICH HAS PASSED THE SENATE.

MAY 6, 1912.—Referred to Committee on Immigration and Naturalization and ordered to be printed.

DEPARTMENT OF COMMERCE AND LABOR,
Washington, May 4, 1912.

The honorable the SPEAKER OF THE HOUSE OF REPRESENTATIVES.

SIR: I have the honor to acknowledge the receipt of a communication dated April 29, addressed to me by Hon. John L. Burnett, chairman of the Committee on Immigration and Naturalization of the House of Representatives, in which he requests an expression of opinion with regard to whether or not the insertion in the Burnett bill, which is pending before the House, and in the Dillingham bill, which has passed the Senate, of a provision "exempting Hawaii from the operations of the illiteracy test," now contained in said bills, "will affect the Caucasian settlement in the Territory."

In compliance with Rule 41 of House Rules, and confining myself to the "specific point mentioned," I beg to advise you, for the information of the Committee on Immigration and Naturalization, that it is the opinion of this department that the enactment of an exempting provision of the character mentioned would materially affect the policy which has obtained for a number of years of encouraging the settlement in the Hawaiian Islands of physically and mentally sound aliens belonging to Caucasian races, because many of the European aliens who have heretofore been induced to enter Hawaii would not have been able to pass the proposed "illiteracy test."

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In this connection attention is directed to identical letters addressed by this departemnt to the chairmen of the Immigration Committees of the House and Senate, under date of February 10, 1911, suggesting an amendment to section 33 of the immigration act, so as to provide against the subsequent unrestricted entry to the mainland of aliens who have been admitted to insular possessions. A copy of the amendment then suggested is inclosed.

Respectfully,

CHARLES NAGEL,
Secretary.

[Inclosure.]

That section 33 of the act entitled "An act to regulate the immigration of aliens into the United States," approved February 20, 1907, be, and the same is hereby, amended to read as follows:

SEC. 33. That for the purpose of this Act the term "United States" as used in the title, as well as in the various sections of the act, shall be construed to mean the United States and any waters, territory, or other place subject to the jurisdiction thereof, except the Isthmian Canal Zone: *Provided*, That if any alien shall leave the Canal Zone or any insular possession of the United States and attempt to enter any other place under the jurisdiction of the United States, nothing contained in this act shall be construed as permitting him to enter under any other conditions than those applicable to all aliens.

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 749.

PATENT LAWS OF THE UNITED STATES.

MESSAGE

FROM THE

PRESIDENT OF THE UNITED STATES,

TRANSMITTING

INFORMATION RELATIVE TO THE PATENT LAWS OF THE UNITED STATES.

MAY 10, 1912.—Read, referred to the Committee on Patents, and ordered to be printed.

To the Senate and House of Representatives:

The present patent laws of the United States were enacted in practically their present condition in 1870, before the development of the industrial conditions which obtain to-day. The wisdom of the framers of the Constitution in providing that Congress shall have the power to promote the progress of science and the useful arts by securing for limited time to authors and inventors the exclusive right to their respective writings and discoveries has been demonstrated by the fact that the industrial progress and development of the United States has been due largely to the stimulus to invention given by the protection afforded by the patent laws.

In recent years, however, combinations based upon patents have been formed which have succeeded in controlling very largely the output of particular industries, and this control has been extended by contracts based upon the patents, requiring the users of patented machines to buy from the corporations owning the patents or from firms under their control supplies or other articles to be used in connection with the patented machines. Some of the circuit courts of appeal have held that such contracts, based upon patents, were valid, and that those who violated the terms of such contracts were liable as contributory infringers. The correctness of such decisions has recently received the approval of the Supreme Court of the United States in the case of Sidney Henry, et al. *v.* A. B. Dick Co., by the vote of four justices of the seven who heard the case. An application for a rehearing of that case by the full bench was made and denied, so that the construction put upon the existing law in that case must be regarded as conclusive. Several bills have been introduced into

Congress, as I am informed, to obviate the effect of this decision so as to prevent a patentee from extending by contract the monopoly secured to him under the patent law. This question calls for careful consideration.

Again, large corporations, by absorbing patents relating to particular arts, have succeeded in dominating entire industries, and the only market to which an inventor of improvements upon such machines may offer his patents for sale is to such corporations. In many instances it is charged corporations buy patents for improvements, and, although the inventions covered thereby constitute a distinct improvement in the art, their manufacture is suppressed and the public never receives the benefit of such inventions during the life of the patent.

Some other countries have discouraged the shelving of inventions in this manner by laws requiring that the owner of a patent shall manufacture the invention covered by his patent within a certain period or that his patent shall be declared forfeited. Other countries provide that the owner of a patent who does not manufacture the invention in the country granting it within a reasonable time may be compelled to grant a license to anyone who may apply to manufacture and sell the invention upon such terms as may be determined to be reasonable by a public officer or by a court of competent authority. It is worthy of careful consideration whether or not legislation on some such lines should be enacted to prevent our patent laws from being made the basis of unjust monopoly, extending beyond the legitimate protection to inventors required to promote science and the useful arts or the means of stifling improvement and progress of the arts.

It is also claimed by some that legislation is necessary to enable an applicant to more speedily obtain his patent and also to prevent the holding of applications for patent in the United States Patent Office for a long period of time until the particular art to which the patent relates has grown up.

Certain amendments to the patent laws are required to make effective the provisions of the Convention of the International Union for the Protection of Industrial Property held at Washington and signed June 2, 1911.

Much complaint has been made that patents granted by the United States are not deemed prima facie valid by the courts and that preliminary injunctions are granted only upon patents which have been adjudicated to be valid by the courts or those whose validity has been prima facie established by public acquiescence for a considerable period of time. It is urged that the laws should be revised in such a manner that the issuance of a patent by the United States will carry with it the prima facie force and effect of a valid patent, and the burden placed upon him who would infringe that patent to establish its invalidity, rather than, as at the present time, to require the patentee to establish the validity of his patent before obtaining a preliminary injunction or securing an award of damages for the intentional infringement of his patented invention.

Great care should be taken in any revision of the statutes relating to patents and patent rights not unduly to interfere with vested interests which have been properly created under the existing laws, or to impair the efficiency of a system from which so much benefit has been derived by the country. I am of the opinion that a careful

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study of the patent laws should be made by a commission of qualified persons appointed for that purpose with instructions to report such revision of those laws as may be necessary to harmonize them with the best thought and needs of our time; and I therefore recommend the enactment of a statute authorizing the President to appoint a commission to investigate the present state of the patent law and to report what, if any, changes or amendments should be made to conform that law with modern conditions and acquirements.

WM. H. TAFT.

THE WHITE HOUSE, *May 10, 1912.*

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62D CONGRESS, 2d Session } HOUSE OF REPRESENTATIVES { DOCUMENT No. 758

JAPANESE INDUSTRY

SPEECH

OF

HON. WILLIAM C. REDFIELD

ON

"THE PROGRESS OF JAPANESE INDUSTRY"

Reprinted from The Journal of Race Development, Vol. 2, No. 4

MAY 15, 1912.—Ordered to be printed

WASHINGTON
GOVERNMENT PRINTING OFFICE
1912

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IN THE HOUSE OF REPRESENTATIVES,

May 15, 1912.

Ordered, That the speech of Hon. William C. Redfield on "The progress of Japanese industry," in volume 2, No. 4, of The Journal of Race Development, be printed as a House Document.

Attest:

SOUTH TRIMBLE,
Clerk.

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THE PROGRESS OF JAPANESE INDUSTRY.

By Hon. William C. Redfield, Member of Congress.

When I set forth to find out, if I could, what the industrial situation in Japan actually was, by meeting the men who were doing the work and by visiting the factories and the mills in that country myself, I had no idea of using the information save for the perhaps sordid purpose of adding to the business of my own factory. Least of all had I a thought of appearing before such an audience as this and talking about it. I would very much rather speak to you about something a little less material. I should like to tell you something of Nikko and its wonderful temples. I should like to go over again my trip along the inland sea. I should like to have you go with me over to the island of Awaji, on a little steamboat, which was built for short men, and on which I could not stand up at all the whole forenoon. Those are the things I should enjoy telling you. Then, too, I should not like to seem to you unappreciative of the art and the traditions of art in Japan.

But it falls to me to talk with you on the economic side of the life of that great people. In so doing, I am going to try to avoid figures all I can and to touch as much as possible upon the fundamental basis of all economics—their human side. For you and I have been told too often that economics are a dreary thing. They are not, unless the food we eat, the clothes we wear, the work we do, the incomes we want, and the money we spend, are dreary things. Those are human things, and he who would see economics thoroughly must see and grasp the human side ere he attempts to apply figures. One is the bones of the science; the other its living lifeblood and the flow of its every activity. Therefore, I want you to see a picture and not a form only. I want you to grasp a growth and not a theory. I want you to see a people evolving out of poverty into comfort, and not a question of exports and imports. I don't care how much a Japanese artisan earns in a day. I care very much if it enables him to live a better life. So let us learn the evolution of Japan's industry in that way, so far as we can in the brief time we have. First let us divide our subject as the ministers of old did, that we may look at it with a certain amount of intelligence. We will speak of it, therefore, in four ways—the evolution of Japanese industry, the basis of Japanese industry, the outlook of Japanese industry, and, finally, Japanese industries as competitors and customers. Among them all we should fairly cover our theme.

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To begin with, there is no other country in the world so interesting to the observer of industry as Japan, because it is almost the one country among them all where the old and the new in industry are going on side by side, each in full vigor. The day of the handicraftsman is nearly gone in Massachusetts. It is gone in England. It is gone in Germany. But in Japan the handicraftsman still reigns supreme. Side by side with an enormous mass of most skillful and artistic handicraftsmen goes on the modern factory system, and we must admit that in equipment, in size, and in management, the great Japanese factories have little to learn from Massachusetts. It is a matter, therefore, of extraordinary interest to see these two great phases of industry operating together. Not only that, but they may be seen on a very considerable scale. I should like to take you all first to Kioto for many reasons. I should like to get you out of Yokohama as speedily as I could. To my mind Yokohama is a sort of foreign mushroom growing on Japanese soil. I did not like Yokohama; I did not like its atmosphere of gain. So we will pass from it and go where we may find old Japan at work in Kioto. And now, ladies and gentlemen, I hope your purses are full, for when you enter Kioto you will need your purse reasonably well filled—not that the prices are so high but that the goods are so attractive. I really regard Kioto as one of the most dangerous towns for the traveler from a financial standpoint that I ever knew. If you go into the Damascene shops and watch them inlaying in gold and silver, and then pass to the great potteries of Kin Kusan, where there were 900 artists working at decorating porcelain when I was there, I am afraid, if you are fond of the fine porcelains that Kin Kusan puts out, that you will say good-by to your financial prudence.

In the old city of Kioto, the ancient capital, then, you find the beautiful, artistic industries of Japan in full force and vigor; they are wonderfully intricate and wonderfully beautiful to see. It is amazing and instructive to us with our mechanical ideas to see the close artistic work of the Japanese workmen in the old city of Kioto.

Now, take the train for an hour to the south, and you come to Osaka with its million of people and its cotton mills; you have gone from the old world to the new, from the handicraftsman to the factory. You have left behind you the ancient and the artistic, and have come down to the sordid commonplace of a weaving room and a spinning room. Osaka is full of great cotton mills, and from there southward it is but a step again to Kobe and Hiogo, where in the great mills of the Kanegafuchi Cotton Spinning Co. you will find a prosperity in the cotton industry which would make New England sit up and think. It was my good fortune, at their request, to take the steamer over to the little town of Sumoto, where I believe I was the only foreigner and where I was received with cordial hospitality. I could, if I had time, tell you of the interesting experience of going into a cotton mill and showing them how to start up a piece of machinery—showing them how it worked, which was rather an unusual experience for a lone foreigner on a Japanese island.

From there we will go to Nagasaki and see the women carrying baskets of coal. On my visit there Mr. Matsuyama, of Mitsui & Co. (Ltd.), told me that these women have a record of loading as much as 8,000 tons of coal in a single day. It may interest you, as showing the change that is going on, to know that he also told me that the

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day of the women workers loading the coal was passing away, because, although they received only somewhere from 12 to 20 cents a day in our money, it was cheaper to do the work with modern coal-handling machinery, and I was consulted as to what it should be and as to where it should be installed. In a very short time this one of the picturesque industrial phases of that particular port of Nagasaki will also have passed away.

Then at Nagasaki it is rather a striking thing for an American to walk out into a shipyard under a great ship of 21,000 tons, designed, built, to be managed, manned, officered, by Japanese, a ship with triple screws, a passenger vessel equipped with every modern convenience. Only a few days later I had the pleasure of traveling on her sister vessel to Manila. It makes one ponder, in view of the collapse of American shipping, to see such a vessel as that built in this Japanese yard, owned by Japanese owners, and officered by Japanese officers, and built of the steel made at the Imperial Steel Works. One realizes that Japan in that important industry has become or is becoming independent. Not that the steel works ever have paid a profit; indeed, they have not. But they are run by the Government, with the Government as their largest customer; and they are at least sufficient to make the Japanese free, so far as her iron and steel supply is concerned, from the need of consulting other nations. In the making of machines, the building of ships, and the manufacture of cotton, as I have said, we find in Japan in full operation—and in many cases in successful operation—all that we have here at home in scientific manufacture. Nor must we regard the men who control these interests as men whom we can teach very much. Mr. Matsukata, who is the head of the Kawasaki Dock Yards, is a graduate of Yale University. Another gentleman, the head of a large cement works, is a graduate not only of Yale but also of the Massachusetts Institute of Technology. One of the heads of these large factories was a member of the Harvard Club. You often run across men with American education, to which has been added European training and European brains, a combination which has made a certain selected number of these Japanese exceptionally skilled and able men.

Right here I want to say a word on the subject of Japanese commercial honesty. There is not anywhere in Europe or America a group of men higher in honor, more clear in thought, more delightful to meet, more able in their work, than the set of Japanese gentlemen who are operating these great industries. We must forget all that we have heard coming from such centers as Yokohama as to tales of commercial dishonor. I am perfectly aware that in some respects Japanese commerce has not reached the heights of our highest ideals, but at its best it is as good as ours, and the best brains and thought of the nation are determined that it shall be always at its best. Very briefly, then, Japan presents the spectacle of the old and the new in industry, progressing side by side.

Now, as to the bases on which her industry rests. Japan lacks large, free capital. She is as yet a comparatively poor people, as counted among the great nations—poor I mean in the sense of accumulated cash resources. Her capital is equally small. Her industries are handicapped by the lack of abundant capital for their expansion. That is one of the fundamental facts about Japan which is basic to all thought of the present and the future of the Empire. The

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national debt of Japan is almost identical with that of the United States, while her population is but half. The national debt is largely held abroad. The strain upon the finances of the Empire to carry on the necessary public works is very great. Many of these important public works are being deferred now for lack of the ready means to carry them on. Only for a moment will I touch on a few figures. The taxes of Japan have grown enormously in the last few years. The debt, which was in 1871 about $2,500,000 is now about $1,100,000,000. The taxation has grown in like proportion, from a total of about $36,000,000 in 1894 to a total of $160,000,000 per annum in 1909. Japan is not a rich country in cash, and nobody knows it better than the men who govern Japan. When I was there the question of the development of the railway system was being considered with great care. It is urgently needed. The roads are all narrow gauge, and at times the industries suffer for railroad facilities, but the improvement even at Japanese wages would cost hundreds of millions of dollars. The question has been postponed, with other improvements, because Japanese funds are not sufficient now to carry on those very large works.

Yet I do not want you to get the impression that Japan is in any sense insolvent. It is not. Her statesmen are guiding her with rare self-sacrifice and with uncommon wisdom, and her treasury shows a surplus every year. It is simply that her growth has been so rapid and her outreach so large that she lacks, as other nations do, the ready cash with which to do the work as fast as she would like to do it.

Japan rejoices, on the other hand, in a wealth of labor of a remarkable character. I suppose there is no more thrifty, able, capable worker than the average Japanese. He is accustomed to living to his satisfaction on the most limited scale. He is of good mental and physical capacity, and capable of becoming a very great factor in industry. One of the fundamental facts in Japan is her splendid supply of abundant physical labor. Let us think a moment what our condition would be if we could only cultivate about one-fifth of our territory. That is the case in Japan. A fraction less than 20 per cent of the land of the Empire, speaking now of Japan itself, is arable. The other four-fifths is mountainous or of such a character that it can not readily be cultivated. The holdings of the farmers are very small. They average about four of our acres, taking the whole Empire together. And the result is that the population presses very closely upon the means of supplying food. Hence the Japanese exports his population; hence he has become a colonizing people; hence he goes whither he can to improve his circumstances.

The fact of the abundance of labor and of the pressure upon the means of living have combined to keep wages in Japan very low. Here we touch upon the third vital factor in Japanese industry—first, that the wages are low as compared with ours, and second, that they are rising very rapidly. For example, the wages of a mill weaver in the year 1907 were 0.42 of a yen. A yen being 50 cents, that was something less than 25 cents of our money to-day. But a weaver's wage has risen since 1905 from 0.18 to 0.42, or more than double. That of the shoemaker rose from 0.41 in 1905 to 0.58 in 1907. And in every other Japanese industry, without going into too much detail, one finds the same advance in wages. So we have for

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our other element upon which to base our Japanese industry very cheap labor, but labor which is rapidly advancing in price. You can not assume in discussing Japanese industry that the wage there is fixed, even for a short time to come.

But, on the other hand, the Japanese mechanic is not trained yet in the mechanic arts, in the arts of handling machinery. He has had no chance. There are some in the great factories, but not enough. This Japanese Yearbook, which I have before me, frankly says that it takes three Japanese mechanics to do the work of one European or American mechanic. That is merely a matter of training. The president of the big cotton mill that I have mentioned wrote to me that in ventilating his mill I must figure on three to four times as many operatives to do the work as was the case in our New England mills.

As regards the materials of industry, the Empire extends over so great a latitude that the material products range from the subarctic to the subtropical of Formosa, and from the sea products of the ocean to the continental supplies of Korea. Formosa, I suppose, is one of the most productive countries of its size in the world. The sea products are a great source of wealth in Japan. She draws lumber from Formosa and northern Korea; cotton from Korea and lumber also from Karafuto. The Empire is rich, of course, in silk. A little more than one-quarter of all the world's silk comes from Japan, and about 60 per cent of all we use in America is derived from there. She has no cotton on her own soil save that which is about to come rather than has come from Korea. She draws some of it from India, more from China, and most from the United States, but she is no worse off in that respect than England, the largest of all cotton manufacturers, who draws her supplies wholly from abroad.

Japan is blessed with ample materials for power. She has abundant coal and a very widespread and abundant supply of water power from the numerous streams coming from the mountain ranges. Consequently, Japan offers a great field for the development of electric light and power, which is being very rapidly taken up. I have the pleasure of knowing the gentleman who operates the largest coal mines in Japan, and from them now they are making coke, gas, coal tar, ammonia, and other products.

To these resources she adds a market in China, which is right at her door and of its kind is the largest of the world; and the presence of that market just across the way is the reason why the cotton-spinning industry took hold first in Japan and has progressed the most. She has already made her presence felt in our cotton mills in eastern New England. Some of the Chinese trade we used to have she has taken away, and will continue undoubtedly to take more, because she possesses a peculiarly intimate knowledge and sympathy with that market and a closeness of touch with it that no other nation can possibly have. We must expect for a time at least to lose a certain amount of our cotton trade in China to Japan. There is, as I have said, this great opportunity in the textile field. The four hundred or so millions of China are across the way and offer a magnificent market that Japanese brains are thoroughly familiar with and Japanese energy intends to look after.

The outlook for the iron and steel industries is not very bright for Japan, for she lacks a good supply of iron. But as Japan is a col-

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onizing people, and as her people spread into the rich country of Formosa and Korea, and to the north, there is certain to come from the increase of wealth derived from their labor and thrift in these relatively uncrowded countries a largely increased demand for the industries of Japan, which will give her a domestic market which she has heretofore lacked; so that Japan will come normally to find herself somewhat in the position that Germany occupies. Considering the great industrial countries, we would say England has very largely an exporting market. There are not people enough to take nearly all of the output of her factories. The United States has almost entirely a domestic market, the foreign sales of merchandise being only one-twentieth of our output. Germany, on the other hand, has both a domestic and foreign market, and into that happy position Japan is evolving, by reason of her development of Korea and Formosa and of Karafuto at the north, as well as of her own territories—and to which she may add the great market at hand in China.

Now, if in Korea and in Formosa there is applied, as there is sure to be applied, the wonderful system of intensive cultivation which exists in Japan, there can not fail to come from those countries a great increase in the agricultural wealth of the Empire, and also in her domestic buying power. We may, therefore, look for a growing demand for Japanese industry which will speedily bring the prices of the wages up and the prices of the commodities up just as they have progressed in the past.

Side by side with these there is every reason to believe that the great porcelain industry in Japan and her other handicraft work will continue to grow and to expand as it has done for centuries. This country itself forms one of the largest—perhaps the largest—market of Japanese porcelains, and there is no reason to doubt that that great branch of her industry, in which she is so far advanced, will continue for many decades to come. In porcelain and other arts Japan holds a unique place; we all would be losers were those industries to suffer.

There is every reason to think, therefore, that the outlook of Japanese industries, save those of iron and steel perhaps, is one of exceptional brightness. If so, what is to become of us? What is the position of Japan as a competitor? It is not for a moment to be expected that a nation as capable and intelligent as the Japanese will fail to supply the largest part of their own things so far as they have the material sources that enable them to do so. It would be absurd to think that anything else would be the case. It is not to be expected, either, that they will fail to supply the great Chinese market with cotton goods and with everything else they are able to take to a market which they understand better than anybody else and which is just across the road from their own mills. We must expect, therefore, for the present to lose a certain amount of trade in Japan in goods that we have been selling them but which they now make or will come to make themselves. We must expect also to lose a certain amount of our Chinese market for the very same reason. But the very prosperity that will come to Japan, as Korea and Formosa and the other lands develop under her keen agricultural touch, the very growth of these industries arising from her Chinese market and her own growing, will increase the needs of Japan for things she does not make and must buy. That is always the rule as

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nations grow in industry. Furthermore, her labor, growing in productiveness, will grow in wage, for the wage is always based—whether the employer will have it so or not—ultimately on what the man produces, and as Japan produces more her laborers will earn more. So it will not be true long that Japan will have any such advantage in price in the world's markets as is now represented by the difference in wages between her artisans and ours. To-day for a given duty they employ a good many more people than we. In some of her industries, too, she must frankly be admitted to be backward. Her locomotives cost more than ours do, and we sell them there and have 720 running on the Japanese railroads.

Some Japanese are very backward in certain ways. It is a very curious sight to see women driving piles for a building, which goes on all the time in Tokyo. The human being is still used as a draft horse, but the time is not so very far distant when the Japanese artisan can employ his time better than by pulling a jinriksiha through the streets of Tokyo. That will evolve out of existence just exactly as the coal-handling woman is being evolved out of existence. With this evolution toward a higher wage comes the evolution toward a larger demand, and that demand will not be confined in Japan to the things that Japan produces any more than it is confined in America, or in England, to the things those countries produce. So, while there may be painful processes of readjustment, in the ultimate result what is good for Japanese commerce is good for American commerce, and that is true of any commerce anywhere. I have small patience with a narrow view of commerce, which makes it war between one man and another. Commerce, if it be a true commerce, is a thing that helps buyer and seller, and whatever, therefore, aids the buyer of Japan to buy, aids certainly the Americans to sell. So there is no reason to doubt that by the very act of her taking away a market here and there, she becomes better able to buy other things that we desire to sell.

The industry of Japan is in a subnormal condition. The handicrafts are highly evolved and perfected. The factory system is well developed in some ways, but not largely developed and not highly perfected. There does not yet exist the great mass of artisans from whom a factory manager can draw a large supply of skilled labor at will. It has to be made. It is being made very rapidly. Her industries are not in the condition where we can speak of them as in any degree fixed. Neither are ours in this country; they change from year to year with startling rapidity. Hers are far less fixed than ours. They have to develop rapidly, and they have developed rapidly. We can not form from the industries of Japan to-day any sound judgment as to what those industries will be 10 years hence. This much we can say—they are certain to expand. Their artisans are certain to grow in number and in earning power. Japan is bound to gain rapidly in wealth. Her people are industrious and thrifty—very much like the French in both of those respects; and if she increases in wealth and in the growth of her industries she will become—we must expect it—one of the great and growing factors in the commerce of the world. But for that reason no less our friend and no less valuable a customer for our produce.

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 759.

COST OF BUILDINGS, WATER SUPPLY, ROADS, ETC., AT CERTAIN POSTS, WAR DEPARTMENT.

LETTER

FROM

THE SECRETARY OF WAR,

TRANSMITTING

PURSUANT TO HOUSE RES. NO. 398 STATEMENT SHOWING THE VARIOUS BUILDINGS, ETC., ALSO THE PRESENT WATER SUPPLY AND ITS CONDITION AT THE POSTS MENTIONED IN SAID RESOLUTION FOR ABANDONMENT.

MAY 15, 1912.—Referred to the Committee on Military Affairs and ordered to be printed.

WAR DEPARTMENT,
Washington, May 13, 1912.

SIR: In compliance with House Resolution 398, Sixty-second Congress, second session, dated February 8, 1912, I have the honor to submit herewith the accompanying statements prepared in the office of the Quartermaster General, which cover in detail the information called for by the resolution, viz:

A. Statement showing cost of buildings, water supply, roads, etc.

B. Statement showing various buildings, etc., also the present water supply and its condition at the posts in question.

C. Estimate of the amount expected to be secured from the sale of these posts.

Very respectfully,

H. L. STIMSON,
Secretary of War.

The SPEAKER, THE HOUSE OF REPRESENTATIVES.

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STATEMENT A.—*Showing cost of buildings, water supply, roads, etc., at the following Army posts recommended for early abandonment.*

Posts.	Cost of land.	Cost of buildings.	Cost of water systems.	Cost of roads and miscellaneous items.	Total.
Apache, Fort, Ariz	Nothing.	$55,942.74	$11,281.00	$6,415.33	$73,639.07
Boise Barracks, Idaho	Nothing.	330,190.74	63,221.13	4,637.86	398,049.73
Brady, Fort, Mich	$12,000.00	309,986.19	7,242.86	115,875.12	445,104.17
Clark, Fort, Tex	60,000.00	52,163.05	20,971.00	5,614.18	138,748.23
George Wright, Fort, Wash	Nothing.	615,052.25	60,853.99	18,948.06	694,854.30
Jay, Fort, N. Y	Unknown.	192,093.12	27,485.50	102,735.21	322,313.83
Lincoln, Fort, N. Dak	Nothing.	465,618.35	89,122.65	63,718.27	618,459.27
Logan H. Roots, Fort, Ark	Nothing.	347,342.38	44,785.48	36,008.81	428,136.67
McIntosh, Fort, Tex	1.00	145,938.88	31,244.20	46,844.40	224,028.48
Mackenzie, Fort, Wyo	Unknown.	842,134.54	172,464.62	204,366.84	1,218,966.00
Madison Barracks, N. Y	10,687.00	540,435.63	55,028.93	36,095.80	642,247.36
Meade, Fort, S. Dak	3,000.00	887,048.60	160,092.62	175,646.71	1,225,787.93
Niagara, Fort, N. Y	Nothing.	377,886.76	8,670.71	41,990.38	428,547.85
Ontario, Fort, N. Y	Nothing.	308,576.74	5,845.00	23,215.76	337,637.50
Wayne, Fort, Mich	Unknown.	437,751.69	9,494.15	95,108.78	542,354.62
Whipple Barracks, Ariz	Unknown.	568,703.04	14,500.00	18,812.65	602,015.69
Wm. Henry Harrison, Fort, Mont.	Unknown.	365,653.30	18,696.26	94,416.63	478,766.19
Yellowstone, Fort, Wyo	Nothing.	533,177.64	117,540.57	155,793.30	806,511.51
Ethan Allen, Fort, Vt	22,831.00	866,981.11	57,066.20	64,529.30	1,011,375.61
Plattsburg Barracks, N. Y	Unknown.	788,810.69	12,695.00	137,141.61	938,647.30
Robinson, Fort, Nebr	Nothing.	937,703.46	63,867.00	73,700.82	1,075,271.28
Missoula, Fort, Mont	Nothing.	462,046.97	76,028.00	55,839.11	593,914.08
Logan, Fort, Colo	116,640.00	522,399.94	34,192.00	49,682.59	722,914.53
Douglas, Fort, Utah	Nothing.	830,919.66	19,579.95	70,039.50	920,539.11
D. A. Russell, Fort, Wyo	114,548.65	4,113,686.25	523,410.47	319,424.68	5,071,070.05
Total	339,707.65	15,900,193,72	1,705,379.29	2,016,601.70	19,961,882.36

Posts.	Amount expended for construction for past five years.	Amount expended for care and upkeep during fiscal year 1911.	Capacity of post.
Apache, Fort, Ariz	$200.00	$4,372.06	Barracks for 5 troops of Cavalry and stables for animals of 4 troops.
Boise Barracks, Idaho	317,829.53	7,466.26	4 troops of Cavalry.
Brady, Fort, Mich	11,754.00	11,353.58	4 companies of Infantry.
Clark, Fort, Tex	845.95	3,702.50	Headquarters and 10 troops of Cavalry.
George Wright, Fort, Wash	53,944.50	3,011.79	8 companies of Infantry.
Jay, Fort, N. Y	28,283.39	10,003.17	Headquarters and 4 companies of Infantry.
Lincoln, Fort, N. Dak	52,105.50	2,952.30	4 companies of Infantry.
Logan H. Roots, Fort, Ark	9,756.75	4,665.30	4 companies of Infantry.
McIntosh, Fort, Tex	8,077.50	5,710.68	Headquarters and 4 companies of Infantry.
Mackenzie, Fort, Wyo	117,039.00	5,517.33	Headquarters and 8 companies of Infantry.
Madison Barracks, N. Y	65,445.84	6,640.66	Headquarters and 8 companies of Infantry.
Meade, Fort, S. Dak	383,503.51	9,128.18	Headquarters and 8 troops of Cavalry.
Niagara, Fort, N. Y	230,789.85	7,188.24	8 Companies of Infantry.
Ontario, Fort, N. Y	5,939.92	3,608.07	4 companies of Infantry.
Wayne, Fort, Mich	52,086.00	8,929.92	Headquarters and 8 companies of Infantry
Whipple Barracks, Ariz	91,857.34	11,663.77	4 companies of Infantry.
Wm. Henry Harrison, Fort, Mont.	49,212.80	3,557.52	Headquarters and 4 companies of Infantry.
Yellowstone, Fort, Wyo	379,296.35	4,105.57	4 troops of Cavalry.
Ethan Allen, Fort, Vt	209,895.17	12,273.68	1 regiment of Cavalry and 2 batteries of Field Artillery.
Plattsburg Barracks, N. Y	128,821.16	12,253.61	1 regiment of Infantry.
Robinson, Fort, Nebr	503,379.17	15,568.00	Headquarters and 8 troops of Cavalry.
Missoula, Fort, Mont	392,990.40	5,557.09	1 battalion of Infantry.
Logan, Fort, Colo	169,984.21	21,440.92	General recruit depot. Accommodations for 37 officers and 10 company barracks with capacity for 744 men.
Douglas, Fort, Utah	469,530.32	17,271.98	1 regiment of Infantry.
D. A. Russell, Fort, Wyo	3,097,117.24	23,432.18	1 regiment Field Artillery, 1 regiment Infantry, 1 regiment Cavalry, 1 company Signal Corps, 1 company Hospital Corps, 1 company Engineers.
Total	6,829,685.40	221,370.36	

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment.*

APACHE, FORT, ARIZ.

Post No. of building.	Designation of building.	When constructed.	Material of which constructed.	Present condition as shown by last annual estimate.
1	Single officer's quarters	1888	Frame	Fair.
2	do	1888	do	Do.
3	Double officers' quarters	1888	do	Poor.
4	Single officer's quarters	1888	do	Good.
5	do	1884	do	Do.
6	do	1884	do	Fair.
7	do	1884	do	Do.
8	do	1888	do	Do.
9	Double officers' quarters	1884	do	Very poor.
10	Single officer's quarters	1892	Stone	Good.
11	do	1892	do	Fair.
12	do	1892	do	Good.
13	do	1888	Frame	Very poor.
14	do	1886	do	Fair.
15	Double officers' quarters	1880	Log	Poor.
16	Barrack for 1 company (65 men)	1891	Adobe	Fair.
18	do	1880	do	Good.
19	do	1885	Frame	Poor.
20	do	1885	do	Do.
22	do	1891	Adobe	Do.
23	Cavalry stable for 76 animals	1905	Frame	Good.
24	do	1905	do	Do.
25	do	1905	do	Do.
26	do	1905	do	Do.
27	Quartermaster's corral for 100 animals	1885	do	Do.
28	Post hospital	1882	do	Do.
29	Hospital stewards' quarters	1888	do	Do.
30	Morgue	1885	Adobe	Poor.
31	Administration building	1885	do	Fair.
32	Chapel and school	1898	Frame	Good.
33	Amusement hall	1885	Adobe	Fair.
34	Library and reading room	1886	Frame	Good.
35	Saddlers' shop and squad room	1885	Stone	Fair.
36	Quartermaster's warehouse	1891	Frame	Do.
37	Troop blacksmith and paint shop	1900	Stone	Good.
38	Post bakery	1888	Frame	Fair.
39	Post blacksmith shop	1882	do	Good.
40	Wheelwright shop	1883	do	Do.
41	Magazine	1886	Stone	Do.
42	Hay storehouse	1897	Frame	Do.
43	Granary	1905	Corrugated iron	Do.
44	do	1905	do	Do.
45	Quartermaster's storehouse and office	1889	Adobe	Do.
46	Commissary storehouse and office	1889	do	Do.
47	Sawmill and pump	1887	Frame	Fair.
48	Ordnance storehouse	1890	Corrugated iron	Do.
49	Guardhouse	1891	Stone	Good.
50	Noncommissioned officers' quarters	1890	Frame	Do.
51	do	1885	do	Fair.
52	do	1890	do	Do.
53	do	1890	do	Do.
54	Officers' mess building	1883	do	Do.
55	Married men's quarters	1885	do	Do.
56	do	1883	do	Do.
57	Noncommissoned officers' quarters	1895	do	Do.
58	Engineers' quarters	Unknown.	do	Good.
59	Plumbers' house	1903	do	Do.
60	Blacksmiths' quarters	Unknown.	do	Do.
61	Wheelwrights' quarters	Unknown.	do	Do.
62	Saddlers' quarters	Unknown.	do	Do.
63	Teamsters' quarters	Unknown.	do	Poor.
64	Ice plant (2,000 pounds daily)	Unknown.	do	Do.
66	Wagon shed	1908	do	Good.
67	Interpreters' quarters	1908	do	Do.

Total number of buildings at post 63.

Water supply.—Source of supply, well, river, and mountain stream. River water used only in case of fire. Post has 1 cement reservoir, with 10,000 gallons capacity, elevated 135 feet above pump.

Condition of system, good.

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

BOISE BARRACKS, IDAHO.

Post No. of building.	Designation of building.	When constructed.	Material of which constructed.	Present condition as shown by last annual estimate.
1	Single officers' quarters	1863	Stone	Fair.
3	Double officers' quarters	1863	do	Do.
4	Single officers' quarters	1863	Brick and stone	Do.
5	Commanding officers' quarters	1891	Brick	Do.
6	Quartermaster's office and storehouse	1863	Stone	Do.
7	Commissary office and storehouse	1863	Frame	Good.
8	Exchange and library	Unknown.	Wood	Do.
9	Post bakery	Unknown.	do	Do.
10	Blacksmith shop	1900	do	Poor.
11	Carpenter shop	Unknown.	do	Do.
12	Barrack building for 70 men	1863	Stone and wood	Fair.
13	Administration building	1888	Brick	Good.
14	Barrack building for 70 men	1863	Stone and frame	Fair.
15	Guardhouse	Unknown.	Stone	Do.
16	Magazine and ordnance storehouse	1863	Stone and frame	Poor.
17	Granary	1900	Corrugated iron	Good.
18	Quartermaster's stables	1863	Frame	Poor.
19	Cavalry stable for 68 animals	1892	do	Good.
20	Hay shed	1898	Corrugated iron	Do.
22	Noncommissioned officers' quarters	1887	Frame	Do.
23	Double officers' quarters	1908	Brick	Excellent.
24	do	1908	do	Do.
25	Married men's quarters	1863	Log	Poor.
26	Hospital stewards' quarters	1890	Frame	Fair.
27	Barracks for 2 troops cavalry	1908	Brick	Excellent.
28	Guardhouse	1908	do	Do.
29	Post exchange	1909	do	Do.
30	Covered reservoir (500,000 gallons)	Unknown.	Brick and cement.	Do.
31	Covered reservoir (45,000 gallons)	Unknown.	Brick	Fair.
32	Coal shed (500 tons)	1909	Frame	Good.
33	Hospital building	1909	Brick	Excellent.
34	Cavalry stable	1910	do	Do.
35	Cavalry stable (78 horses)	1910	do	Do.
37	Cavalry guardhouse	1892	Frame	Fair.
38	Sawmill	1888	do	Do.
39	Oil house	1902	do	Good.
40	Temporary cavalry stable	1906	do	Fair.
41	Cavalry guardhouse	1906	do	Do.
42	Hospital stewards' quarters	1910	Brick	Excellent.
	Temporary saddler's shop	1909	Frame	Good.
	Bakery building	1910	Brick	Excellent.
	Field officers' quarters	1910	do	Do.
	One four-set officers' quarters	1910	do	Do.
	One four-set noncommissioned officers' quarters	1911	do	Do.
	Cavalry stable	1911	do	Do.
	2 stable guard buildings	1911	do	Do.
	Storehouse for grain	1911		Do.

Total number of buildings at post, 47.

Water supply.—Water for this post is derived from springs in the mountains 5 to 8 miles from post, gravity. Condition of system "good."

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

BRADY, FORT, MICH.

Post No. of building.	Designation of building.	When constructed.	Material of which constructed.	Present condition as shown by last annual estimate.
1	Single officers' quarters	1892	Brick	Good.
2	do	1892	do	Do.
3	Double officers' quarters	1892	do	Do.
4	Single officers' quarters	1892	do	Do.
5	Double officers' quarters	1892	do	Do.
6	do	1893	do	Do.
7	do	1893	do	Do.
8	do	1897	Brick and frame	Do.
9	Single officers' quarters	1893	Brick	Do.
10	Double officers' quarters	1897	Brick and frame	Do.
11	Guardhouse	1906	Brick	Do.
12	Barracks for 2 companies (174 men)	1903	do	Do.
13	Storehouse (ordnance)	1897	do	Do.
14	Quartermaster and commissary storehouse	1892	do	Do.
15	Fuel house	1892	Frame	Bad.
16	Plumber and carpenter shops	1892	Brick	Good.
17	Quartermaster stable for 18 animals	1892	do	Do.
18	Hospital	1892	do	Do.
19	Double noncommissioned officers' quarters	1892	Brick and shingles.	Do.
20	Hospital steward's quarters	1893	do	Do.
21	Double noncommissioned officers' quarters	1897	Brick	Do.
22	Barracks for 2 companies (174 men)	1903	do	Do.
23	Magazine	1892	do	Do.
24	Scale house	1892	Frame	Do.
25	Oil house	1894	Corrugated iron	Do.
26	Wagon shed for 12 wagons	1894	Frame	Do.
27	Water-meter house	1894	do	Do.
28	Wood shed	1895	do	Bad.
29	Ice house	1894	do	Do.
30	Forage storehouse	1897	Brick	Good.
31	Crematory and shed	1903	Steel siding	Do.
32	Gymnasium and exchange	1903	Brick	Do.
33	Bakery	1903	do	Do.
34	Fire station	1904	do	Do.
35	Administration building	1906	do	Do.

Total number of buildings at post, 35.

Water supply.—Water purchased from the board of public works, Saulte Ste. Marie, at 10 cents per 1,000 gallons. Condition of system good.

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

FORT CLARK, TEX.

Post No. of building.	Designation of building.	Date of construction.	Material of which constructed.	Present condition of building.
1	Bachelor officers' quarters (8 officers)	1884–85	Stone	Poor.
2, 3	Double officers' quarters	Unknown.	Log	Do.
4	Single officers' quarters	Unknown.	do	Do.
5	Post headquarters building	1859	Stone	Do.
6, 7	Double officers' quarters	Unknown.	do	Do.
8, 9	do	Unknown.	do	Do.
10, 11	do	Unknown.	do	Do.
12, 13	do	Unknown.	do	Do.
14, 15	do	Unknown.	do	Do.
16, 17	do	Unknown.	do	Do.
18, 19	do	Unknown.	do	Do.
20	Single officers' quarters	Unknown.	Adobe	Do.
21, 22	Double officers' quarters	Unknown.	Stone	Do.
23, 24	do	1888	do	Do.
25, 26	do	Unknown.	do	Do.
27, 28	do	Unknown.	do	Do.
29	Single officers' quarters	Unknown.	do	Do.
30	Cavalry barrack for 100 men	Unknown.	do	Do.
31	do	Unknown.	do	Do.
32	do	Unknown.	do	Do.
33	do	Unknown.	do	Do.
34	do	Unknown.	do	Do.
35	do	Unknown.	do	Do.
36	do	Unknown.	do	Do.
37	do	Unknown.	do	Do.
38	do	Unknown.	do	Do.
39	do	Unknown.	do	Do.
40	Cavalry band barrack	Unknown.	do	Do.
41	Library	Unknown.	do	Do.
42	Bakery building	Unknown.	do	Do.
43	Magazine	Unknown.	do	Do.
44	Oil house	Unknown.	do	Do.
45	Forage house	Unknown.	do	Do.
46	Post guardhouse	Unknown.	do	Do.
47	Commissary storehouse	Unknown.	do	Do.
48	Sawmill	1892	do	Do.
49	Quartermaster's corral	Unknown.	do	Do.
50	Meat house and commissary	1885	do	Do.
51–58	Cavalry stables for 556 horses	Unknown.	do	Do.
60	Post hospital	1875	do	Do.
61–63	Noncommissioned officers' quarters	1872	do	Do.
64, 65	do	Unknown.	Frame	Do.
66	Post bathhouse	1891	do	Do.
67–72	Company privies	1891	do	Do.
73	Workshops	1892	Stone	Do.
74	Quartermaster's storehouse	1893	do	Do.
75	Hospital stewards' quarters	Unknown.	do	Do.
76	do	Unknown.	do	Do.
77	Vegetable storehouse	1896	Frame	Do.
78	Troop storehouse	Unknown.	do	Do.
79	do	Unknown.	do	Do.
80, 81	do	Unknown.	do	Do.
82, 83	do	Unknown.	do	Do.
84	do	Unknown.	do	Do.
85	do	Unknown.	do	Do.
86	Band stand	Unknown.	do	Do.
87, 88	Old water tanks	Unknown.	do	Do.
89	Gun shed	Unknown.	do	Do.
92	Pump and boiler house	1902	do	Do.
93	Hose-cart shed	Unknown.	do	Do.
94	New water tank (60,000 gallons)	1903	Steel	Good.

Total number of buildings at post, 66.

Water supply.—Water is obtained from Las Moras Spring on Government reservation. Condition of system, "good."

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

FORT GEORGE WRIGHT, WASH.

Post No. of building.	Designation of building.	When constructed.	Material of which constructed.	Present condition as shown by last annual estimate.
2	Single officers' quarters	1906	Brick	Good.
3	....do	1904	....do	Do.
8	Double officers' quarters	1906	....do	Do.
9	....do	1904	....do	Do.
11	....do	1899	....do	Do.
13	....do	1899	....do	Do.
15	....do	1899	....do	Do.
16	....do	1906	....do	Do.
17	....do	1899	....do	Do.
20	Bachelor officers' quarters and mess (8-set)	1906	....do	Do.
21	Administration building	1898	....do	Do.
23	Guardhouse	1898	....do	Do.
24	Barracks for 2 companies (172 men)	1906	....do	Do.
25	....do	1899	....do	Do.
26	....do	1906	....do	Do.
27	Barracks for 2 companies (200 men)	1903	....do	Do.
30	Hospital steward's quarters	1898	....do	Do.
31	Post exchange and gymnasium	1905	....do	Do.
32	Hospital	1899	....do	Do.
37	Double noncommissioned staff officers' quarters	1899	....do	Do.
38	....do	1899	....do	Do.
39	Quartermaster's stable for 86 animals	1898	....do	Do.
40	Coal shed	1898	Frame	Do.
41	Bakehouse	1898	Brick	Do.
42	Subsistence storehouse	1898	....do	Do.
43	Workshops	1898	....do	Do.
44	Powder magazine	1898	....do	Do.
45	Scale house	1899	Frame	Do.
46	Oil house	1899	Corrugated iron	Do.
47	Wagon shed	1899	....do	Do.
48	Quartermaster storehouse	1903	Brick	Do.
49	Ordnance storehouse	1903	....do	Do.
50	Teamsters' quarters (6 men)	1900	Frame	Fair.
51	Target and tool house	1904	....do	Good.
52	Wagon shed	1906	Corrugated iron	Do.
53	Fire station	1906	Brick	Do.
54	Transformer house	1904	....do	Do.
55	Pump house	1906	....do	Do.
56	Cow barn and chicken house	1908	Frame	Do.
57	Target and tool house	1910	....do	Do.

Total number of buildings at post, 40.

Water supply.—Water furnished by city of Spokane for $1 per annum for 125,000 gallons per diem and 10 cents per 1,000 gallons for water used in excess of that amount. Source of supply, well sunk 100 feet from edge of Spokane River about 4 miles above post. Condition of system good.

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

FORT JAY, N. Y.

Post No. of building.	Designation of building.	Date of construction.	Material of which constructed.	Present condition of building.
51	Barrack for 1 company of infantry	Unknown.	Brick	Poor.
52	do	Unknown.	do	Do.
53	do	Unknown.	do	Do.
54	do	Unknown.	do	Do.
55	Castle William	Unknown.	Stone	Fair.
56	Double noncommissioned officers' quarters and mess.	Unknown.	Frame	Poor.
57	Single noncommissioned officers' quarters	1887	do	Do.
58	Post hospital	1880	do	Good.
59	Crematory	1904	Galvanized iron	Do.
60	Powder magazine	Unknown.	Stone	Fair.
61	Hospital steward's quarters	1891	Frame	Do.
63	Double officers' quarters	1893	Brick	Excellent.
64	do	1893	do	Good.
65	do	1894	do	Do.
66	do	1895	do	Do.
67	Bakery	1897	do	Do.
68	Hospital pavilion	1898	Frame	Poor.
69	do	1898	do	Do.
70	Mess hall	1898	do	Fair.
71	Double officers' quarters	1904	Brick	Good.
72	Single officers' quarters	1905	do	Do.
73	Bachelor officers' quarters (6 officers)	1907	do	Do.
74	Post exchange and gymnasium	1908	Frame	Do.
	Shed for trucks	1910	do	Do.
	Oil house	1911	Concrete	Do.

Total number of buildings at post, 25.

Water supply. Water is purchased from Brooklyn water supply, source of which is Ridgwood, Long Island, at the rate of 10 cents per 100 cubic feet.

Condition of water system, "good."

FORT LINCOLN, NEBR.

Post No. of building.	Designation of building.	When constructed.	Material of which constructed.	Present condition as shown by last annual estimate.
1	Double officers' quarters	1904	Brick	Good.
2	Single officers' quarters	1906	do	Do.
3	Double officers' quarters	1906	do	Do.
4	do	Unknown	do	Do.
5	do	1906	do	Do.
9	do	1904	do	Do.
30	Barracks for 1 company (114 men)	1903	do	Do.
31, 32	Barracks for 2 companies (230 men)	1906	do	Do.
33	Barracks for 1 company (114 men)	Unknown	do	Do.
35	Administration building	1903	do	Do.
36	Guardhouse	1903	do	Do.
38	Hospital steward's quarters	1903	do	Do.
39	Post hospital	1903	do	Do.
43	Double noncommissioned staff officers' quarters	1906	do	Do.
44	do	1902	do	Do.
45	Workshop	1905	do	Do.
46	Post bakery	1903	do	Do.
47	Quartermaster's stable and wagon room	1902	do	Do.
48	Wagon shed	1905	Frame	Do.
50	Coal shed	1903	do	Do.
51	Quartermaster and commissary offices and storehouse.	1902	Brick	Do.
53	Constructing quartermaster's office and coal house.	1901	Frame	Fair.
54	Pump house	1901	Brick	Do.
55	Engineer's quarters	1902	Frame	Good.
61	Post exchange	1903	Brick	Do.
62	Purification plant	1904	Frame	Do.
63	Fire-apparatus building	1905	Brick	Do.
64	Shooting gallery	1907	Frame	Do.
65	Temporary coal shed	1907	Planks	Fair.
66	Ice house	1908	Brick	Good.
67	Root house	1908	Concrete	Do.
68	Civilian employees' quarters (9 men)	1908	Brick	Do.
69	Gymnasium and bowling alley	1908	Brick	Do.

Total number of buildings, 33.

Water supply.—Two wells, driven. Wells are not used, as water is purchased under contract from the Bismarck Water Supply Co., at rate of 10 cents per 1,000 gallons. Condition of system good.

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

FORT LOGAN H. ROOTS, ARK.

Post No. of building.	Designation of building.	Date of construction.	Material of which constructed.	Present condition of building.
1	Double barrack for 130 men	1895	Brick	Good.
2	Mess hall and kitchen	1895	do	Do.
3	Lavatory	1895	do	Do.
4	Kitchen and mess hall	1895	do	Do.
5	Guardhouse	1895	do	Do.
6	Bakery	1895	do	Do.
7	Quartermaster and commissary storehouse	1895	do	Do.
8	Quartermaster's stables	1895	do	Do.
9	Double noncommissioned officers' quarters	1895	do	Do.
10	do	1895	do	Do.
11	Hospital	1895	do	Do.
12	Double officers' quarters	1895	do	Do.
13	do	1895	do	Do.
14	do	1895	do	Do.
15	Hospital stewards' quarters	1895	do	Do.
16	Shops	1895	do	Do.
17	Coal shed	1895	Wood	Do.
18	Powder magazine	1895	Brick	Do.
19	Engineers' quarters	1896	Frame	Do.
20	Wagon shed	1896	do	Poor.
21	Oil house	1897	Corrugated iron	Good.
22	Fire-apparatus house	1901	Brick	Do.
23	Scale house	1898	Frame	Do.
24	Double officers' quarters	1898	Brick and frame	Do.
25	Pump house	1895	Brick	Do.
26	Water tank	1895	Steel	Do.
27	Sawmill	1901	Wood	Do.
28	Spring house	1897	Stone	Poor.
29	Reservoir	1899	do	Good.
30	Teamsters' dormitory	1897	Frame	Do.
31	Root cellar	1904	do	Do.
32	Administration building	1905	Brick	Do.
33	Post exchange and gymnasium	1905	do	Do.
34	Barrack for 65 men	1906	do	Do.
35	Lavatory for barrack	1906	do	Do.
36	Mess hall and kitchen	1907	do	Do.
37	Barrack for 65 men	1906	do	Do.
38	Lavatory for barrack	1906	do	Do.
39	Mess hall and kitchen	1906	do	Do.
40	Field officers' quarters	1906	do	Do.
41	Bachelor officers' quarters and mess	1907	do	Do.
45	Water tank (150,000 gallons)	1911	Steel	Do.
46	Target house	Unknown.	Wood	Poor.
47	do	Unknown	do	Do.
	Temporary shooting gallery	1909	do	Good.
	Temporary stable and storage house	1911	do	Do.

Total number of buildings at post, 47.

Water supply.—Water is purchased from the Home Water Co. Little Rock, Ark., from wells in Argenta, Ark. Contract price 10 cents per 1,000 gallons based on delivery of 50,000 gallons per day. Water is pumped by Government plant. Condition of system "good."

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

FORT McINTOSH TEX.

Post No. of building.	Designation of building.	Date of construction.	Material of which constructed.	Present condition of building.
1	Band barrack	1882	Frame	Fair.
3	Administration building	Unknown.	Brick	Good.
4	Post hall	Unknown.	Stone	Do.
5,6	Double officers' quarters	Unknown.	Brick	Fair.
7,8	.....do	Unknown.	.....do	Do.
9	Single officers' quarters	1907	.....do	Good.
10,11	Double officers' quarters	Unknown.	Stone	Fair.
13,49	.....do	Unknown.	.....do	Do.
14	Post hospital	1886	Brick	Do.
15	Barrack for 60 men	Unknown.	.....do	Good.
16	.....do	Unknown.	Stone	Fair.
17	.....do	Unknown.	Brick	Do.
18	Guardhouse	1886	.....do	Do.
19	Granary	1887	.....do	Do.
20	Cavalry stable	Unknown.	Frame	Do.
21	.....do	Unknown.	.....do	Do.
22	Boiler house	1890	Brick	Good.
23	Pump house	1890	.....do	Fair.
24	Commissary storehouse	1890	.....do	Good.
25	Quartermaster storehouse	Unknown.	Stone and adobe	Poor.
26	Noncommissioned officers' quarters	Unknown.	Adobe	Do.
27	.....do	1885	Brick	Do.
28	Hospital stewards' quarters	1885	.....do	Fair.
30	Sawmill	Unknown.	Frame	Poor.
31	Magazine	1897	Brick	Good.
33	Oil house	1897	.....do	Do.
34,35	Double officers' quarters	1890	Frame	Do.
36	Root house	1891	Brick	Do.
37	Bakery	1892	.....do	Fair.
38	Post schoolhouse	1890	Frame	Poor.
39	Married men's quarters	Unknown.	.....do	Do.
40	Engineers' quarters	1890	.....do	Good.
41	Blacksmith's quarters	Unknown.	.....do	Fair.
43–45	Shops	Unknown.	Brick	Do.
46	Hay shed	1891	Frame	Good.
47	Noncommissioned officers' quarters	Unknown.	Stone	Fair.
48	Married men's quarters	Unknown.	Frame	Poor.
50	Gun shed	1893	.....do	Fair.
51	Isolation ward	1903	.....do	Good.
52	Fire-apparatus house	1904	.....do	Do.
53	Teamsters' quarters and harness room	Unknown.	Brick	Do.
54	Water tank (60,000 gallons capacity)	1902	Frame	Fair.
55	Water tank (18,000 gallons capacity)	Unknown.	.....do	Do.
56	Post exchange and gymnasium	1905	Brick	Good.
57	Lavatory	1906	.....do	Do.
58	.....do	1906	.....do	Do.
59	.....do	1906	.....do	Do.
60	Barrack for 60 men	1907	.....do	Do.
61	Mess hall and kitchen	1907	.....do	Do.
62	Detached lavatory	1907	.....do	Do.
63	Hose-cart house	1907	Frame	Do.
64	Coal shed	1908	.....do	Do.
65	Bowling alley	1908	.....do	Do.
	Shooting gallery	1909	.....do	Do.

Total number of buildings at post, 54.

Water supply.—Water is obtained for house connections from wells. River water is used for lawns, gardens, and flush tanks.

Condition of water system, "good."

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

FORT MACKENZIE, WYO.

Post No. of building.	Designation of building.	When constructed.	Material of which constructed.	Present condition as shown by last annual estimate.
1	Administration building	1907	Brick	Good.
2	Guardhouse	1902	do	Do.
3	Band barracks for 28 men	1907	do	Do.
4	Double barracks (200 men)	1907	do	Do.
5	Single barracks (100 men)	1903	do	Do.
6	do	1902	do	Do.
7	Double barracks (200 men)	1904	do	Do.
8	do	1907	do	Do.
9	Post hospital	1909	do	Do.
10	Post exchange and gymnasium	1905	do	Do.
11	Hospital steward's quarters	1902	do	Do.
12	Army hospital	1902	do	Do.
17	Single officer's quarters	1907	do	Do.
18	Bachelor officers' quarters (8 officers)	1907	do	Do.
19	Double officers' quarters	1907	do	Do.
20	Single officers' quarters	1904	do	Do.
21	Double officers' quarters	1907	do	Do.
22	do	1904	do	Do.
23	do	1904	do	Do.
24	do	1904	do	Do.
25	do	1902	do	Do.
26	do	1902	do	Do.
27	Commanding officer's quarters	1907	do	Do.
39	Noncommissioned staff officers' quarters (4 officers).	1907	do	Do.
40	Double noncommissioned officers' quarters	1902	do	Do.
41	Bakehouse	1904	do	Do.
42	Quartermaster's and subsistence storehouse	1902	do	Do.
43	Coal shed	1901	Frame	Do.
44	Forage storehouse	1907	Brick	Do.
46	Fire station	1909	do	Do.
47	Quartermaster's shops	1907	do	Do.
48	Hay shed	1907	Frame	Do.
49	Wagon shed	1907	Corrugated iron	Do.
50	Magazine	1907	do	Do.
51	Quartermaster's storehouse	1909	Brick	Do.
52	Coal shed	1909	Frame	Do.
53	Quartermaster's stable	1909	Brick	Do.
55	Magazine	1909	Corrugated steel	Do.
56	Shooting gallery	1909	Frame	Do.
57	Bowling alley	1909	Brick	Do.
58	Range house	1909	Frame	Do.
59	Root house	1910	Concrete	Do.
60	Transformer substation	1910	Brick	Do.
71	Ice house	1905	Frame	Do.
102	Temporary double officers' quarters	1899	do	Poor.
103	Temporary single officers' quarters	1899	do	Do.
105	Oil storehouse	1899	Corrugated iron	Do.
106	Hay shed	1899		Do.
107-A	Married soldiers' quarters	1899	Frame	Do.
107-B	do	1899	do	Do.
107-C	do	1899	do	Do.
110-A	do	1899	do	Do.
110-B	do	1899	do	Do.
110-C	do	1899	do	Do.
113	Temporary ordnance storehouse	1899	do	Do.
116	Temporary stable orderlies' quarters	1899	do	Do.
	Root house	1910	Concrete	Good.

Total number of buildings at post, 56.

Water supply.—Obtained from Big Goose Creek by gravity, by Government pipe line about 20 miles in length. Quality excellent. Condition of system good, except reservoir, which is leaking and in bad repair.

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

MADISON BARRACKS, N. Y.

Post No. of building.	Designation of building.	Date of construction.	Material of which constructed.	Present condition of building.
1	Single officers' quarters	1819	Stone	Fair.
2	Officers' mess	1819	do	Do.
3	Single officers' quarters	1819	do	Do.
4	do	1819	do	Do.
5	do	1819	do	Do.
6	do	1819	do	Do.
7	do	1819	do	Do.
8	do	1819	do	Do.
9	do	1819	do	Do.
10	do	1819	do	Do.
11	do	1819	do	Do.
12	do	1819	do	Do.
13	do	1819	do	Do.
14	do	1819	do	Do.
15	do	1819	do	Do.
16	do	1819	do	Do.
17	do	1819	do	Do.
18	do	1819	do	Do.
19	Bakery	1910	Brick	Good.
20, 21	Double officers' quarters	1893	do	Do.
22, 23	do	1893	do	Do.
24, 25	do	1897	do	Do.
26, 27	do	1894	do	Do.
28, 29	do	1894	do	Do.
30	Gun shed	1899	Frame	Do.
31	Barrack for 2 companies	1906	Brick	Do.
32	Quartermaster's stable	1911	do	Do.
34	Barrack for 2 companies	1894	do	Do.
35	Administration building	1893	do	Do.
36	Barrack for 2 companies	1893	do	Do.
37	Mineral oil storehouse	Unknown.	Stone	Do.
39	Barrack for 2 companies	1906	Brick	Do.
40	Quartermaster's office and storerooms	1820	Stone	Poor.
41	Hospital stewards' quarters	1888	Frame	Fair.
42	Paint shop	1816	Stone	Do.
43	Ice house	Unknown.	Frame	Do.
46	Boat house	Unknown.	do	Poor.
47	Scale house	1890	do	Fair.
48	Coal shed	1900	do	Good.
49	Hospital stewards' quarters	1901	Brick	Do.
50	Magazine	Unknown.	do	Do.
51	Quartermaster's storehouse and blacksmith shop	Unknown.	Frame	Fair.
52	Tinsmith shop	Unknown.	do	Do.
53	Hospital	1899	Brick	Good.
54	Carpenter shop	Unknown.	Frame	Fair.
55	Field officers' quarters	1909	Brick	Good.
56	Magazine	1899	do	Do.
61	Hose house	1884	Frame	Do.
62	Quartermaster's storehouse	1889	Stone	Do.
63	Chapel and amusement hall	1887	Frame	Do.
64	Teamster's quarters	Unknown.	do	Poor.
65	Carpenter shop	1888	Stone	Good.
66	Quartermaster's storehouse	1889	do	Do.
67	Tentage house	1890	do	Do.
68	Prison mess	Unknown.	do	Do.
69, 70	Double noncommissioned officers' quarters	1893	Brick	Do.
71, 72	do	1893	do	Do.
73	Ordnance storehouse	1897	do	Do.
74	Water tower	1892	Stone	Do.
75, 76	Double set noncommissioned officers' quarters	1909	Brick	Do.
79, 80	do	Unknown.	Frame	Fair.
81	Single set noncommissioned officers' quarters	1888	do	Do.
82	Post exchange and gymnasium	1905	Brick	Good.
83	Band barrack	1906	do	Do.
84	Custodians' quarters on target range	1905	Frame	Do.
85	Guardhouse	1896	Brick	Do.
86	Wagon shed	1897	Frame	Do.
87	Pumping station	1893	do	Do.
88	Transformer substation	1908	Brick	Do.
89	Steel trestle and water tank	1908	Steel	Do.
	Field officers' quarters	1909	Brick	Excellent.
	Double noncommissioned officers' quarters	1909	do	Do.
	Bakery building	1910	do	Do.
	Quartermaster's stable	1910	do	Do.
	Forage storehouse	1911	do	Do.

Total number of buildings at post, 75.

Water supply.—Water is pumped from Lake Ontario by a Government plant. Present water system is in good condition.

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

FORT MEADE, S. DAK.

Post No. of building.	Designation of building.	When constructed.	Material of which constructed.	Present condition as shown by last annual estimate.
1	Single officers' quarters	1881	Frame	Fair.
4,5	Double officers' quarters	1896	do	Good.
6	Single officer's quarters	1879	do	Fair.
7,8	Double officers' quarters	1883	do	Do.
9,10	do	1909	Brick	Good.
12	Single officer's quarters	1909	do	Do.
14,15	Double officers' quarters	1879	Frame	Fair.
18,19	do	1879	do	Good.
10	Single officers' quarters	1879	do	Fair.
21	do	1879	do	Do.
22	do	1888	do	Do.
23	do	1880	do	Do.
24	do	1880	do	Do.
25	do	1881	do	Do.
28	Hospital	1896	Brick	Good.
26	Single officers' quarters	1890	Frame	Fair.
69	Noncommissioned officers' quarters (1 noncommissioned officer).	1880	do	Do.
29	do	1880	do	Do.
70	do	1885	do	Do.
37	do	1880	do	Do.
30	Hospital stable	1908	do	Good.
72	Noncommissioned officers' quarters (1 noncommissioned officer).	1882	do	Fair.
38	do	1880	do	Do.
71	do	1880	do	Do.
39	do	1879	do	Do.
43	do	1889	do	Do.
66	Post school	1888	do	Do.
35	Noncommissioned officers' quarters (1 noncommissioned officet).	1891	do	Do.
36	do	1891	do	Do.
27	Chapel	1891	do	Do.
31,32	Noncommissioned officers' quarters (2 noncommissioned officers).	1901	Brick	Good.
33,34	do	1906	do	Do.
46	Quartermaster's office and storehouse	1909	do	Do.
47	Root cellar	1908	Cement	Do.
63	Post exchange and gymnasium	1904	Brick	Do.
51	Band barracks for 28 men	1909	do	Do.
2,3	Double officers' quarters	1906	do	Do.
55	Administration building	1909	do	Do.
60	Cavalry barrack for 100 men	1908	do	Do.
11	Single officers' quarters	1906	do	Do.
65	Bachelor officers' quarters	1909	do	Do.
13	Single officer's quarters	1906	do	Do.
16,17	Double officers' quarters	1906	do	Do.
76	Hay shed	1909	Frame	Do.
93	Cavalry stable, 78 animals	1909	Brick	Do.
94	do	1909	do	Do.
95	do	1909	do	Do.
103	Bowling alley	1909	do	Do.
105,106	Double officers' quarters	1911	Concrete	New.
107	Cavalry stables, 78 animals	1911	Stone	Good.
108	do	1911	do	Do.
109	do	1911	do	Do.
110	do	1911	do	Do.
61	Pack-train quarters (15 men)	1878	Frame	Bad.
54	Single Cavalry barracks (100 men)	1900	Stone	Good.
52	do	1901	do	Do.
53	do	1903	do	Do.
56,57	Double Cavalry barracks (170 men)	1904	Brick	Do.
58,59	do	1906	do	Do.
68	Coal house	1891	Frame	Poor.
102	Ice house	1886	do	Good.
75	Hay scale house	1904	do	Fair.
74	Temporary coal shed	1907	do	Do.
87	Cavalry stable, 78 animals	1880	do	Poor.
88	do	1880	do	Do.
80	do	1879	do	Do.
90	Cavalry stable, 72 animals	1891	do	Do.
91	Pack stable, 68 animals	1905	do	Fair.
92	Cavalry stable, 78 animals	1906	Brick	Good.
77	Hay storehouse	1897	Corrugated iron	Do.

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

FORT MEADE, S. DAK.—Continued.

Post No. of building.	Designation of building.	When constructed.	Material of which constructed.	Present condition as shown by last annual estimate.
62	Quartermaster's office and warehouse	1878	Frame	Fair.
78	Granary	1882	.....do	Do.
81	Quartermaster's stable, 86 animals	1880	.....do	Bad.
42	Sawmill	1882	.....do	Fair.
85	Blacksmith and wheelwright shops	1894	.....do	Do.
80	Harness and saddle shop	1893	.....do	Poor.
49	Butcher shop	1885	.....do	Do.
45	Oil cellar	1906	Brick	Good.
98	Band stand	1885	Frame	Do.
97	Bakery	1900	Stone	Do.
100	Old bakery (carpenter shop)	1887	Frame	Fair.
50	Guardhouse	1901	Stone	Good.
48	Commissary salesroom and storehouse	1879	Frame	Poor.
101	Powder magazine	1901	Brick	Good.
82	Wagon shed	1895	Frame	Fair.
86	Old wagon shed	1880	.....do	Do.
83	Wagon shed	1906	.....do	Good.
84	.....do	1906	.....do	Do.
73	Employees quarters	1882	.....do	Fair.
40	Reservoir	1881	Stone, brick, and cement.	Do.
67	Storehouse	1888	Frame	Do.
44	Ordnance, storehouse	1890	Brick	Good.
79	Teamsters' quarters	1883	Frame	Poor.
96	Fire station	1901	Brick	Good.
41	Reservoir	Unknown.	Concrete	Do.

Total number of buildings at post, 95.

Water supply.—Government water system, from intake dam. Deadmans Canyon. Condition of system good.

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

FORT NIAGARA, N. Y.

Post No. of building.	Designation of building.	Date of construction.	Material of which constructed.	Present condition of building.
1	Administration building	1882	Frame	Poor.
2	Double officers' quarters	1882	do	Do.
3	do	1882	do	Do.
4	do	1886	do	Fair.
5	do	1886	do	Do.
6	do	1892	do	Do.
7	do	1892	do	Good.
8	Chapel	1882	do	Poor.
9	Barrack for one company	1887	Brick	Fair.
10	do	1887	do	Do.
11	do	1892	do	Good.
12	do	1892	do	Do.
13	Post hospital	1890	Stone	Do.
14	Quartermaster and commissary storehouse	1888	Brick	Fair.
15	Oil house	1895	Frame	Poor.
16	Post bakery	1889	Brick	Good.
17	Old noncommissioned officers' quarters (double)	1882	Frame	Poor.
18	Double noncommissioned officers' quarters	1889	do	Fair.
19	Hospital stewards' quarters	1890	do	Good.
20	Engine house	1886	Brick	Do.
21	Company water-closet	1895	do	Do.
22	do	1891	do	Do.
23	Paint house	1905	Frame	Fair.
24	Officers' lodge on target range	1886	do	Good.
25	Statistical building on range	1886	do	Do.
26	Target-range kitchen	1886	do	Do.
29	Boathouse	1886	do	Do.
30	Old castle	1726	Stone	Poor.
31	Old bakehouse	1762	do	Do.
32	Old blockhouse	1756	do	Do.
33	Old blockhouse, No. 2	1756	do	Do.
34	French barracks	1757	do	Do.
35	Old magazine	1759	do	Do.
36	Old guardhouse	1874	Frame	Do.
38	Wagon shed	1896	do	Good.
39	Quartermaster's stable	1892	Brick	Do.
40	Guardhouse	1893	do	Do.
41	New coal shed	1894	Frame	Do.
42	Forage storehouse	1897	Brick	Do.
43	Workshops	1897	Frame	Fair.
44	Tool shed on target range	1890	do	Do.
46	Competitors' mess hall	1905	do	Good.
47	Temporary stable	1906	do	Poor.
48	Bachelor officers' quarters	1908	Brick	Good.
49	Double officers' quarters	1908	do	Do.
50	Double infantry barrack	1908	do	Do.
51	do	1908	do	Do.
52	Target house	1908	Concrete	Do.
53	do	1908	do	Do.
54	Post exchange and gymnasium	1909	Brick	Do.
55	Water tank (28,600 gallons)	Unknown.	Steel	Do.
56	Target house	1909	Brick	Do.
57	Icehouse	1909	Frame	Do.
	Double officers' quarters	1910	Brick	Do.
	do	1910	do	Do.

Total number of buildings at post, 55.

Water supply.—Water is pumped by Government plant from the Niagara River. All drinking water is condensed, as the water is contaminated.

Condition of water system, "fair."

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

FORT ONTARIO, N. Y.

Post No. of building.	Designation of building.	Date of construction.	Material of which constructed.	Present condition of building.
3	Administration building	1904	Brick	Good.
5	Double officers' quarters	1904	do	Do.
6	do	1904	do	Do.
7	do	1905	do	Do.
8	Single officers' quarters	1905	do	Do.
9	Double officers' quarters	1905	do	Do.
10	do	1905	do	Do.
11	do	1905	do	Do.
17	Single noncommissioned officers' quarters	1905	do	Do.
18	Double noncommissioned officers' quarters	1905	do	Do.
19	Hospital stewards' quarters	1905	do	Do.
20	Hospital	1905	do	Do.
21	Double barrack building for 2 companies	1905	do	Do.
22	Guardhouse	1905	do	Do.
23	Bakehouse	1905	do	Do.
24	Double barrack building	1905	do	Do.
25	Post exchange and gymnasium	1906	do	Do.
29	Coal shed	1905	Frame	Do.
30	Quartermaster storehouse	1905	Brick	Do.
31	Commissary storehouse	1905	do	Do.
32	Quartermaster stable	1905	do	Do.
33	Wagon shed	1905	Frame	Do.
34	Quartermaster workshop	1905	Brick	Do.
35	Garbage crematory	1906	Frame	Poor.
37	Civil employees' quarters	Unknown.	Stone	Fair.
38	Scale house	1910	Frame	Good.
40	Ice house	Unknown.	do	Poor.

Total number of buildings at post, 27.

Water supply.—Water for the post is purchased from the water department of Oswego, N. Y., at the rate of 10 cents to 8 cents per 1,000 gallons, according to consumption. Quality of water is poor, being obtained from the Oswego River. Condition of the water system is good.

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

FORT WAYNE, MICH.

Post No. of building.	Designation of building.	When constructed.	Material of which constructed.	Present condition as shown by last annual estimate.
1,2	Double officers' quarters	Unknown.	Frame	Good.
3,4	do	Unknown.	do	Do.
5,6	do	Unknown.	do	Do.
7,8	do	Unknown.	do	Do.
9	Single officers' quarters	Unknown.	do	Do.
10	do	Unknown.	do	Do.
11,12	Double officers' quarters	Unknown.	do	Do.
13	Single officers' quarters	Unknown.	do	Do.
14,15	Double officers' quarters	Unknown.	do	Do.
16	Hospital	1889	Brick	Do.
17,18	Double noncommissioned officers' quarters	1897	do	Do.
20	Quartermaster's stable	1900	do	Do.
21	Paint shop	Unknown.	Frame	Fair.
22	Plumber and carpenter shop	Unknown.	do	Good.
24	Gate lodge	1901	Stone	Do.
25	Quartermaster's office building	1889	Brick	Do.
26	Tool house	Unknown.	Frame	Fair.
33	Old stone barracks (137 men)	1848	Stone	Bad.
34	Enlisted men's water-closet	1889	Frame	Poor.
35	Bathhouse	1882	do	Do.
36	Old bakery	Unknown.	do	Do.
43	Coal shed	1893	do	Bad.
49	Storehouse	1890	Brick	Good.
50	Hospital steward's quarters	1890	Frame	Do.
51	Oil house	1891	Corrugated iron	Poor.
52	Wagon shed	1892	Frame	Do.
55,56	Barracks for 2 companies	1894	Brick	Good.
57,58	do	1894	do	Do.
59	Forage storehouse	1897	do	Do.
60,61	Double officers' quarters	1897	do	Do.
62,63	do	1898	do	Do.
64,65	do	1898	do	Do.
66	Post exchange and gymnasium	1903	do	Do.
67	Bakery	1904	do	Do.
68,69	Double noncommissioned officers' quarters	1904	do	Do.
70,71	do	1905	do	Do.
72	Administration building	1905	do	Do.
73	Guardhouse	1905	do	Do.
74,75	Double barracks (176 men)	1906	do	Do.
76,77	do	1906	do	Do.
78,79	Double officers' quarters	1906	do	Do.
80,81	do	1906	do	Do.
82	Wagon shed	Unknown.	Frame	Do.
83	Quartermaster's stables (76 animals)	1908	Brick	Do.
84	Four-set officers' quarters	1911	do	Do.
85	Band stand	1910	Frame	Do.

Total number of buildings at post, 46.

Water supply.—Lake St. Clair, through mains of Detroit city waterworks, at rate of $1.75 for first 30,000 gallons and 3 cents per 1,000 gallon in excess. Condition of system good.

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

WHIPPLE BARRACKS, ARIZ. (new post).

Post No. of building.	Description of building.	Date of construction.	Material of which constructed.	Present condition of building.
5	Single officers' quarters	1904	Brick	Good.
7	.....do	1908	Concrete blocks	Do.
8	.....do	1908	.....do	Do.
9	.....do	1908	.....do	Do.
11	.....do	1908	.....do	Do.
13	.....do	1908	.....do	Do.
14	.....do	1908	.....do	Do.
15	.....do	1908	.....do	Do.
16	.....do	1908	.....do	Do.
17	.....do	1908	.....do	Do.
18	.....do	1908	.....do	Do.
32	Single barrack building, 100 men	1904	Brick	Do.
33	Single barrack building, 86 men	1908	Concrete blocks	Do.
35, 36	Infantry barracks for 2 companies	1908	.....do	Do.
38	Post exchange and gymnasium	1908	.....do	Do.
39	Guardhouse	1908	.....do	Do.
40	Administration building	1908	.....do	Do.
41	Ordnance storehouse	1908	Corrugated steel	Do.
42	Bakery building	1908	Brick	Do.
43	Offices and storerooms	1904	.....do	Do.
44	Oil house	1908	Corrugated iron	Do.
46	Coal shed	1908	Frame	Do.
49	Wagon shed	1908	.....do	Do.
50	Quartermaster stable	1904	.....do	Do.
63	Single noncommissioned officers' quarters	1908	Concrete blocks	Do.
64	.....do	1908	.....do	Do.
65	.....do	1908	.....do	Do.
66	.....do	1908	.....do	Do.
69	Post hospital	1909	Brick	Do.
81	Fire apparatus house	1908	Frame	Do.
82	Root cellar	1909	Brick	Do.
83	Quartermaster stable	1910	Frame	Do.
84	Quartermaster storehouse	1910	Concrete	Do.
85	Ice and cold storage plant	1911	.....do	Do.
87	Powder magazine	1911	Corrugated steel	Do.
88	Reservoir (250,000 gallons)	1905	Concrete and corrugated steel.	Do.
	Shooting gallery	1909		Do.

Total number of buildings at post, 37.

Water supply.—Water is obtained from Thornbeck Springs and is purchased from the city of Prescott, Ariz., at the rate of 10 cents per 1,000 gallons. Quality of supply, good. Water system in good condition.

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

FORT WILLIAM H. HARRISON, MONT.

Post No. of building.	Designation of building.	When constructed.	Material of which constructed.	Present condition as shown by last annual estimate.
1	Administration building	1895	Brick	Good.
2	Hospital	1895	do	Do.
3	Double officers' quarters	1895	do	Do.
4	do	1895	do	Do.
5	do	1895	do	Do.
6	do	1895	do	Do.
7	do	1895	do	Do.
8	do	1895	do	Do.
9	Double company barracks	1895	do	Do.
10	Guardhouse	1895	do	Do.
11	Double noncommissioned officers' quarters	1899	do	Do.
12	do	1895	do	Do.
13	do	1895	do	Do.
14	Hospital Corps sergeant's quarters	1895	do	Do.
15	Powder magazine	1895	do	Do.
16	Bakery	1895	do	Do.
17	Quartermaster and commissary storehouse	1895	do	Do.
18	Scale house	1895	Frame	Do.
19	Fuel house	1895	do	Do.
20	Quartermaster stables, 72 animals	1895	Brick	Do.
21	Wagon shed	1895	Frame	Do.
22	Quartermaster shops	1895	Brick	Do.
25	Bachelor officers' quarters	1899	do	Do.
24	Water-meter house	1895	do	Do.
26	Double officers' quarters	1897	do	Do.
28	Double company barracks	1897	do	Do.
31	Forage storehouse	1897	do	Do.
32	Oil house	1897	Corrugated iron	Do.
33	Hose-cart house	1897	Frame	Do.
35	Commanding officer's quarters	1899	Brick	Do.
36	Band quarters	1899	do	Do.
38	Oil house	1901	Corrugated iron	Do.
39	Post exchange and gymnasium	1904	Brick	Do.
40	Commanding officer's stable	1904	Frame	Do.
41	Noncommissioned staff officers' quarters	1905	Brick	Do.
42	do	1905	do	Do.
43	Civilian employees' quarters	1905	do	Do.
44	Shooting gallery	1906	Frame	Do.
45	Temporary coal shed	1907	Planks	Do.
46	do	1907	do	Do.
49	Commissary storehouse	1908	Brick	Do.
48	Band stand	1908	Frame	Do.
49	Hospital cow stable	1909	do	Do.
50	Ordnance storehouse	1909	do	Do.
51	Bowling alley	1909	Brick	Do.

Total number of buildings at post, 45.

Water supply: Purchased from Helena Water Works Co. at rate of 7 to 5 cents per 1,000 gallons, according to consumption.

Condition of system, good.

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

FORT YELLOWSTONE, WYO.

Post No. of building.	Designation of building.	Date of construction.	Material of which constructed.	Present condition of building.
1	Guardhouse	1891	Frame	Very bad.
2	Administration building	1891	do	Fair.
3	Double officers' quarters	1891	do	Do.
4	do	1891	do	Do.
5	Barrack for 1 troop Cavalry	1891	do	Do.
6	Commissary building	1891	do	Do.
7	Quartermaster's storehouse	1891	do	Do.
8	Granary	1891	do	Good.
9	Bakery	1891	do	Poor.
10	Cavalry stable	1891	do	Fair.
11	Single noncommissioned officers' quarters	1891	do	Do.
12	do	1891	do	Do.
13	Root cellar	1891	do	Do.
14	Hospital	1893	do	Do.
15	Hay shed	1893	do	Good.
16	Fuel shed	1893	do	Fair.
17	do	1893	do	Do.
18	do	1893	do	Do.
19	do	1893	do	Do.
20	do	1893	do	Do.
21	do	1893	do	Do.
22	do	1893	do	Do.
23	Hospital sergeants' quarters	1894	do	Do.
24	Root cellar	1894	do	Bad.
25	Hay shed	1895	do	Good.
26	Double officers' quarters	1897	do	Do.
27	do	1897	do	Do.
28	Barrack for 1 troop Cavalry	1897	do	Fair.
30	Single noncommissioned officers' quarters	1897	do	Good.
31	do	1897	do	Do.
32	Coal shed	1898	do	Do.
33	Quartermasters' shop building	1898	do	Do.
34	Plumber shop	1901	do	Fair.
35	Post exchange and gymnasium		do	Do.
36	Reservoir (100,000 gallons)	1899	Stone	Good.
36A	Reservoir (2,000,000 gallons)	1901	Open	Do.
37	Teamsters' quarters	1901	Frame	Fair.
38	Workshops (troop)	1901	do	Do.
39	Sawmill	1902	do	Do.
40	Electric power plant	1903	do	Do.
41	Oil house	1903	Iron	Good.
42	Coal shed	1903	Frame	Do.
43	Wagon shed	1903	do	Do.
44	Quartermasters' stables	1905	do	Do.
45	Shooting gallery	1905	do	Fair.
46	Wagon shed	1907	do	Good.
47	Cavalry stables	1907	do	Do.
48	Cavalry stable (94 animals)	1909	Stone	Excellent.
49	do	1909	do	Do.
50	Double cavalry barracks	1909	do	Do.
51	Double stable, guard, and shop building	1909	do	Do.
52	Field officers' quarters	1909	do	Do.
53	Double captains' quarters	1909	do	Do.
54	Bachelor officers' quarters, 6 set	1909	do	Do.
55	Hospital annex	1909	Wood	Good.
56	Commissary root cellar	1910	Concrete	Do.
	Old frame buildings at old post:			
1	Barracks (now quartermasters' storehouse)	1886	Frame	Poor.
2	Quartermasters' warehouse	1886	do	Do.
3	Guardhouse	1886	do	Do.
4	Pack-train stables	1886	do	Do.
5	Veterinary hospital	1886	do	Do.
7	Headquarters building	1887	do	Do.
8	Double cottage	1887	do	Do.
9	Magazine	1889	Stone	Good.
	Outpost buildings:			
	Upper basin soldier station	1904	Logs	Do.
	Tower Falls soldier station	Unknown.	Frame	Fair.
	Soda Butte soldier station	1904	do	Good.
	Snake River soldier station	1903	Logs	Do.
	Lake soldier station	1904	do	Do.
	Gardiner soldier station	1904	Frame	Do.
	Thumb soldier station	1904	do	Do.
	Sylvan Pass soldier station	1904	do	Do.
	Fountain soldier station	1904	Logs	Do.

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

FORT YELLOWSTONE, WYO.—Continued.

Post No. of building.	Designation of building.	Date of construction.	Material of which constructed.	Present condition of building.
	Outpost buildings—Continued.			
	Canyon soldier station	1904	Logs	Good.
	Riverside soldier station	1904	do	Do.
	Norris soldier station	1904	do	Do.
	New buildings constructed or under construction, for which numbers have not yet been assigned:			
	Hospital building	1910	Concrete	Just completed.
	Guardhouse		do	Do.
	Chapel		Stone	Under construction.

Total number of buildings at post, 79.

Water supply.—Water is obtained from Glenn Creek, about 3 miles from post, by gravity. Quality of supply "fair." Condition of water system "fair."

FORT ETHAN ALLEN, VT.

Post No. of building.	Designation of building.	When constructed.	Material of which constructed.	Present condition as shown by last annual estimate.
1	Bachelor officers' quarters	1895	Brick	Good.
2	Commanding officer's quarters	1896	do	Do.
3	Double officers' quarters	1894	do	Do.
4	do	1894	do	Do.
5	do	1894	do	Do.
6	do	1897	do	Do.
7	do	1897	do	Do.
8	do	1897	do	Do.
9	do	1895	do	Do.
10	do	1894	do	Do.
11	do	1894	do	Do.
12	do	1899	do	Do.
13	do	1899	do	Do.
14	do	1904	do	Do.
15	Double Cavalry barracks	1899	do	Do.
16	do	1894	do	Do.
17	do	1894	do	Do.
18	do	1897	do	Do.
19	Guardhouse	1894	do	Do.
20	Post hospital	1894	do	Do.
21	Cavalry stable	1904	do	Do.
22	do	1899	do	Do.
23	do	1894	do	Do.
24	do	1894	do	Do.
25	do	1894	do	Do.
26	do	1894	do	Do.
27	do	1897	do	Do.
28	do	1897	do	Do.
29	Quartermaster's storehouse	1894	do	Do.
30	Fuel storehouse	1894	do	Do.
31	Quartermaster's stable	1894	do	Do.
32	Water tower	1894	Marble	Do.
33	Wagon shed	1894	Wood	Do.
34	Pump house (addition in 1911)	1894	Brick	Do.
35	Scale house	1894	Wood	Do.
36	Blacksmith shop	1894	Brick	Do.
37	Shop building	1894	do	Do.
38	Double noncommissioned staff officers' quarters	1894	do	Do.
39	do	1894	do	Do.
40	Bakery	1904	do	Do.
41	Drill hall	1895	do	Do.
42	Bachelor officers' quarters	1894	do	Do.
43	Oil house	1894	Corrugated iron	Do.
44	Hospital steward's quarters	1895	Brick	Do.
45	Powder magazine	1895	do	Do.
46	Forage storehouse	1897	do	Do.
47	Double noncommissioned staff officers' quarters	1890	do	Do.

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

FORT ETHAN ALLEN, VT.—Continued.

Post No. of building.	Designation of building.	When constructed.	Material of which constructed.	Present condition as shown by last annual estimate.
48	Ordnance storehouse	1897	Brick	Good.
49	Band barracks	1897	do	Do.
50	Double stable guardhouse	1904	do	Do.
51	do	1904	do	Do.
52	do	1904	do	Do.
53	do	1904	do	Do.
54	Quartermaster's storehouse	1904	do	Do.
55	Band stand	1897	Wood	Do.
56	Waiting station	Unknown.	do	Do.
57	Artillery workshop	1904	Brick	Do.
58	do	1904	do	Do.
59	Double noncommissioned officers' quarters	1898	do	Do.
60	Subsistence storehouse	1900	do	Do.
61	Powder magazine	1904	do	Do.
62	Artillery stable	1904	do	Do.
63	do	1904	do	Do.
64	Gun shed	1904	Wood	Do.
65	do	1904	do	Do.
66	Bachelor officers' quarters	1904	Brick	Do.
67	Straw shed	1903	Wood	Poor.
70	Artillery barracks	1904	Brick	Good.
71	do	1904	do	Do.
72	Post exchange and gymnasium	1904	do	Do.
73	Cavalry stable	1904	do	Do.
74	do	1904	do	Do.
75	do	1904	do	Do.
76	do	1904	do	Do.
77	Single officers' quarters	1904	do	Do.
78	Double officers' quarters	1904	do	Do.
79	do	1904	do	Do.
80	do	1904	do	Do.
81	do	1904	do	Do.
82	Single officers' quarters	1904	do	Do.
83	Double Cavalry barracks	1904	do	Do.
84	do	1904	do	Do.
85	Double stable guardhouse	1904	do	Do.
86	do	1904	do	Do.
87	Band stable	1904	do	Do.
88	Fuel storehouse	1904	Wood	Do.
89	do	1904	do	Do.
90	Oil house	1905	Corrugated iron	Do.
91	Wagon shed	1905	Wood	Do.
92	Hay shed	1905	Corrugated iron	Do.
93	Ice house	1905	Wood	Do.
94	Administration building	1906	Brick	Do.
95	Water tower	1906	Steel	Do.
96	Hay shed	1906	Corrugated steel	Do.
97	Veterinary stable	1908	Brick	Do.
98	Civilian employees' quarters	1908	do	Do.

Total number of buildings at post, 96.

Water supply.—Water obtained from 6 driven wells and pumped into standpipe and tank. Condition of system good, except machinery in pumping plant.

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

PLATTSBURG BARRACKS, N. Y.

Post No. of building.	Designation of building.	When constructed.	Material of which constructed.	Present condition as shown by last annual estimate.
1	Double officers' quarters	1893	Brick	Good.
2	.....do	1893	.....do	Do.
3	.....do	1893	.....do	Do.
4	.....do	1893	.....do	Do.
5	.....do	1893	.....do	Do.
6	.....do	1893	.....do	Do.
7	.....do	1893	.....do	Do.
8	.....do	1893	.....do	Do.
9	.....do	1893	.....do	Do.
10	Guardhouse	1893	.....do	Do.
11	4-company barracks	1893	.....do	Do.
12	.....do	1894	.....do	Do.
13	Administration building	1893	.....do	Do.
14	Bachelor officers' quarters	1894	.....do	Do.
15	Old officers' quarters	Unknown.	Stone	Fair.
16	Band barracks and noncommissioned officers' quarters.	1895	.....do	Do.
17	Quartermaster's stable and wagonshed	1895	Brick and wood	Good.
18	Magazine	1888	Brick	Do.
19	Paint shop	Unknown.	Wood	
21	Teamsters' quarters	Unknown.	.....do	
23	Noncommissioned staff officers' quarters	1903	Brick	Do.
24	Stable	Unknown.	Wood	Fair.
25	Quartermaster's workshops	1904	Brick	Good.
27	Double officers' quarters	1905	.....do	Do.
28	.....do	1905	.....do	Do.
32	Quartermaster's storehouse	1905	.....do	Do.
33	Quarters for married men	1889	.....do	Fair.
34	Band barracks	1905	.....do	Good.
35	Commanding officers' quarters	1895	.....do	Do.
36	Quartermaster's storehouse	1895	.....do	Do.
37	Coal shed	1895	.....do	Do.
38	Hose house	1895	.....do	Do.
39	Forage house	1895	.....do	Do.
40	Hospital	1895	.....do	Do.
41	Drill hall and gymnasium	1903	.....do	Do.
42	Double officers' quarters	1896	.....do	Do.
43	.....do	1896	.....do	Do.
44	4-company barracks	1897	.....do	Do.
45	Band stand	1897	.....do	Do.
46	Double officers' quarters	1896	.....do	Do.
47	Subsistence storehouse	1897	.....do	Do.
48	Scale shed	1900	Frame	Do.
49	Ordnance office and storehouse	1899	Brick	Do.
50	Coal shed	1903	Frame	Do.
51	Oil house	1903	.....do	Do.
52	Ice house	1906	.....do	Do.
53	Hose house	1905	.....do	Do.
54	Stable	1908	Brick	Do.
55	Wagon shed	1908	Wood	Do.
56	Transformer substation	1909	Brick	Do.
57	Filter house	1909	.....do	Do.
58	Caretaker's cottage	1907	Frame	Do.
59	Civilian employees' quarters	1910	Brick	Do.
60	4-set officers' quarters	1911	.....do	New.

Total number of buildings at post, 54.

Water supply.—Water purchased from city of Plattsburg, N. Y., at 10 to 7 cents per 1,000 gallons, according to consumption. Condition of system, good.

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

FORT ROBINSON, NEBR.

Post No. of building.	Designation of building.	When constructed.	Material of which constructed.	Present condition, as shown by last annual estimate.
1	Single officers' quarters	1891	Frame	Good.
2, 3	Double officers' quarters	1909	Brick	Do.
4, 5	.....do	1891	Frame	Fair.
6, 7	.....do	1891	.....do	Do.
8, 9	.....do	1891	.....do	Do.
10, 11	.....do	1887	Adobe	Poor.
12, 13	.....do	1887	.....do	Do.
14, 15	.....do	1887	.....do	Do.
16, 17	.....do	1887	.....do	Do.
18, 19	.....do	1887	.....do	Do.
20, 21	.....do	1887	.....do	Do.
22, 23	.....do	1891	Frame	Do.
24, 25	.....do	1891	.....do	Do.
26	Officers' mess and club	1884	Grout	Do.
27	Single officers' quarters	Unknown.	Concrete and brick	Do.
29	Noncommissioned officers' quarters	1880	Frame	Fair.
31	.....do	1880	.....do	Do.
33	.....do	1880	.....do	Do.
35	.....do	1880	.....do	Do.
37	.....do	1880	.....do	Do.
38	.....do	1880	.....do	Do.
43	.....do	1888	.....do	Poor.
44	.....do	1890	.....do	Do.
45	.....do	1886	.....do	Do.
46	.....do	1886	.....do	Do.
47	Hospital steward's quarters	1885	Grout	Do.
52	Single-troop barracks	1887	Adobe	Do.
53	.....do	1887	.....do	Do.
55	.....do	1887	.....do	Do.
56	.....do	1887	.....do	Do.
57	.....do	1887	.....do	Do.
63	Cavalry stable	1891	Frame	Very poor.
64	.....do	1891	.....do	Do.
68	.....do	1887	.....do	Do.
70	Pack-train stable	Unknown.	.....do	Poor.
72	Post exchange	1880	Concrete	Do.
74	Bandmaster's quarters	Unknown.	Frame	Fair.
75	Post and signal office	1883	.....do	Do.
77	Guardhouse	1892	.....do	Poor.
78	Cavalry stable	1895	.....do	Do.
79	.....do	1895	.....do	Fair.
80	Quartermaster's office and storeroom	1892	.....do	Do.
81	Commissary	1892	.....do	Do.
82	Coal shed	1896	.....do	Do.
95	Depot warehouse	Unknown.	.....do	Do.
98	Granary	1895	Brick	Good.
100	Ordnance magazine	1894	.....do	Do.
103	Sawmill	Unknown.	Frame	Fair.
104	Band stand	Unknown.	.....do	Good.
105	Wagon shed	1892	.....do	Fair.
106	Quartermaster's stables	1892	.....do	Do.
107	Post chapel	1893	.....do	Good.
109	Gun shed	1894	.....do	Fair.
110	Carpenter shop	1882	.....do	Good.
111	Trainmaster's quarters	1887	.....do	Fair.
114	Band stand	1893	Wood	Good.
116	Wheelwright and blacksmith shop	Unknown.	Frame	Fair.
117	Teamsters' dormitory	Unknown.	.....do	Do.
120	Engineers' quarters	Unknown.	.....do	Do.
121	Wheelwrights' quarters	1895	.....do	Good.
122	Packers' quarters	1895	.....do	Fair.
123	Transportation shed	1896	.....do	Poor.
127	Well and reservoir	1898	Brick	Good.
128,128a	Steel water tank	1889	Steel	Do.
129	Ordnance storehouse	1899	Frame	Do.
130	Quartermaster's storehouse	1900	.....do	Do.
131	Oil storehouse	1900	Corrugated iron	Do.
132	Troop lavatory	1900	Frame	Do.
133	.....do	1900	.....do	Do.
134	.....do	1900	.....do	Do.
135	Meat market	1900	.....do	Do.
136	Hospital and annex	1904	Brick	Do.
137	Pump house	1901	.....do	Do.
138	Heater room for water tank	1901	Frame	Do.

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

FORT ROBINSON, NEBR.—Continued.

Post No. of building.	Designation of building.	When constructed.	Material of which constructed.	Present condition as shown by last annual estimate.
139	Troop lavatory	1902	Frame	Good.
140	.....do	1902	.....do	Do.
141	Double noncommissioned officers' quarters	1902	.....do	Fair.
142	Pesthouse	1902	.....do	Good.
143	Hospital cow barn	1892	.....do	Do.
144	Hospital stable	1903	.....do	Fair.
145	Blacksmith shop	1904	Brick	Good.
147	Gymnasium	1904	.....do	Do.
148	Ice house	1904	Frame	Fair.
149	Administration building	1905	.....do	Good.
150	Civilian employees' quarters	1905	.....do	Do.
151	Hay shed	1906	.....do	Do.
152	Laundry	Unknown.	.....do	Fair.
153	Stable guard	1906	.....do	Do.
154	.....do	1906	.....do	Do.
155	.....do	1906	.....do	Do.
156	.....do	1906	.....do	Do.
157	Blacksmith shop	1906	Brick	Good.
158	Bakery	1906	.....do	Do.
159	Quartermaster's workshop	1906	.....do	Do.
160	Veterinary stable	1908	.....do	Do.
161	Cavalry stable	1908	.....do	Do.
162	....do	1908	.....do	Do.
163	....do	1908	.....do	Do.
164	....do	1908	.....do	Do.
165	Double stable guard and shop	1908	.....do	Do.
166	.....do	1908	.....do	Do.
167	Single officers' quarters	1909	.....do	Do.
168–169	Double officers' quarters	1909	.....do	Do.
170–171	.....do	1909	.....do	Do.
172	Bachelor officers' quarters	1909	.....do	Do.
173–174	Cavalry barracks	1909	.....do	Do.
175–176	.....do	1909	.....do	Do.
177	Transformer substation	1909	.....do	Do.
178	Fire station	1910	.....do	Do.
179	Hospital corps sergeants' quarters	1910	.....do	Do.

Total number of buildings at post, 111.

Water supply.—Supply pumped from natural springs and well. Quality, excellent. Condition of present system, old and worn out.

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

FORT MISSOULA, MONT.

Post No. of building.	Designation of building.	When constructed.	Material of which constructed.	Present condition as shown by last annual estimate.
1,2	Double officers' quarters	1879	Frame	Good.
3,4	.....do	1877	.....do	Do.
5,6	.....do	1879	.....do	Do.
7	Single officers' quarters	1882	.....do	Do.
8,9	Double officers' quarters	1880	.....do	Do.
10,11	.....do	1880	.....do	Do.
12,13	.....do	1881	.....do	Do.
14	Post hall and chapel	1887	.....do	Do.
15	Single noncommissioned staff officers' quarters	1880	.....do	Do.
19	Infantry barracks	1881	.....do	Bad.
20	Storeroom (old quarters)	1877	Log	Do.
21	Infantry barracks	1881	Frame	Do.
22	Storeroom (old quarters)	1877	Log	Do.
23	Infantry barracks	1881	Frame	Do.
24	Storeroom (old quarters)	1877	Log	Do.
25	Infantry barracks	1877	Frame	Do.
26	Storeroom (old quarters)	1877	Log	Do.
27	Civilian employees' quarters	1877	Frame	Fair.
28	.....do	1877	.....do	Do.
29	Guardhouse	1887	.....do	Bad.
30	Paint and saddle shop	1880	Log	Do.
31	Blacksmith shop	1899	Frame	Good.
32	Commissary storehouse	1880	.....do	Bad.
33	Quartermaster's storehouse	1880	.....do	Do.
34	Noncommissioned staff officers' quarters	1881	.....do	Fair.
35	Bakery	1881	.....do	Bad.
36	Teamsters' quarters	1885	.....do	Do.
37	Quartermaster's corral	1893	.....do	Do.
38	Oil house	1893	.....do	Do.
39	Granary	1880	.....do	Good.
41	Carpenter shop	1879	.....do	Fair.
42	Employees' quarters	1880	.....do	Do.
43	Engineer's quarters	1886	.....do	Good.
46	Magazine	1880	Stone	Fair.
47	Administration building	1891	Frame	Do.
48,49	Double officers' quarters	1894	.....do	Good.
50	Gymnasium	1897	.....do	Fair.
51	Civilian quarters	1893	.....do	Do.
52	Water tank and trestle	1903	Wood	Bad.
53	Pump house	1904	Frame	Do.
54	Temporary coal shed	1903	.....do	Fair.
55	Sawmill	1905	.....do	Good.
56	Ice house	1905	.....do	Do.
57	Quartermaster's storehouse	1906	Brick	Do.
58	Post exchange and gymnasium	1906	.....do	Do.
59	Coal shed	1907	Frame	Fair.
60	.....do	1907	.....do	Do.
61	Root cellar	1908	Concrete	Good.
63,64	Double officers' quarters	1910	.....do	Do.
65	Single officers' quarters	1910	.....do	Do.
66	.....do	1910	.....do	Do.
67	.....do	1910	.....do	Do.
68	.....do	1910	.....do	Do.
69	.....do	1910	.....do	Do.
70,71 72,73	4-set officers' quarters	1910	.....do	Do.
74,57	Infantry barracks	1910	.....do	Do.
76,77	.....do	1910	.....do	Do.
78,79	Noncommissioned officers' quarters	1910	Stucco	Do.
80,81	.....do	1910	.....do	Do.
82	Quartermaster's stable	1910	Concrete	Do.
83	Wagon shed	1910	Frame	Do.
84	Bakery	1910	Concrete	Do.
85	Substation	1910	.....do	Do.
86	Pumping station	1910	.....do	Do.
87	Water tank and trestle	1911	Steel	Do.

Total number of buildings at post, 66.

Water supply.—Water pumped from Bitter Root River. Condition of system, new.

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Statement B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

FORT D. A. RUSSELL, WYO.

Number.	Designation of building.	When constructed.	Material of which constructed.	Present condition as shown by last annual estimate.
1	Commanding general's quarters	1910	Brick	Good.
1	Commanding officers' quarters	1903	do	Do.
1	do	1909	do	Do.
1	Field officers' quarters	1885	do	Do.
1	do	1905	do	Do.
1	do	1906	do	Do.
1	do	1905	do	Do.
4	do	1908	do	Do.
3	do	1910	do	Do.
1	do	1909	do	Do.
2	do	1911	do	Do.
2	Captains' quarters	1888	do	Do.
2	do	1902	do	Do.
2	do	1905	do	Do.
2	do	1906	do	Do.
1	do	1905	do	Do.
6	do	1908	do	Do.
14	do	1910	do	Do.
6	do	1909	do	Do.
1	Lieutenants' quarters	1885	do	Do.
1	do	1885	do	Do.
2	do	1900	do	Do.
2	do	1900	do	Do.
3	do	1885	do	Do.
5	do	1888	do	Do.
6	do	1905	do	Do.
2	do	1906	do	Do.
4	do	1908	do	Do.
4	do	1904	do	Do.
4	do	1910	do	Do.
10	do	1909	do	Do.
1	Bachelor officers' quarters (6 set)	1900	do	Do.
1	Bachelor officers' quarters (8 set)	1906	do	Do.
1	Bachelor officers' quarters (6 set)	1908	do	Do.
1	Bachelor officers' quarters (10 set)	1910	do	Do.
2	Four-set officers' quarters	1911	do	Do.
1	Band barracks	1885	do	Do.
2	do	1909	do	Do.
6	Infantry barracks	1885	do	Do.
2	do	1885	do	Do.
2	do	1905	do	Do.
2	Cavalry barracks	1906	do	Do.
2	do	1908	do	Do.
2	do	1910	do	Do.
3	Artillery barracks	1909	do	Do.
1	Engineer barrack	1904	do	Do.
1	Signal Corps barrack	1904	do	Do.
1	Hospital Corps barrack	1908	do	Do.
1	Noncommissioned officers' quarters	1885	do	Do.
5	do	1885	do	Do.
2	do	1904	do	Do.
2	do	1904	do	Do.
2	do	1908	do	Do.
8	do	1909	do	Do.
4	do	1910	do	Do.
1	Hospital sergeant's quarters	Unknown	Frame	Fair.
1	do	1906	Brick	Good.
1	Engineers' quarters	1888	Frame	Fair.
1	Employees' quarters	1888	do	Do.
1	Teamsters' quarters	1910	Brick	Good.
1	Packers' quarters	1894	Frame	Do.
1	Employees' quarters	1911	Brick	Do.
4	Cavalry stables	1906	do	Do.
4	do	1909	do	Do.
4	do	1908	do	Do.
1	Cavalry band stable	1909	do	Do.
1	Artillery band stable	1909	do	Do.
6	Artillery stables	1909	do	Do.
1	Quartermaster's stable	1904	do	Do.
1	do	1909	do	Do.
2	do	1911	do	Do.
1	Engineer stable	1911	do	Do.
1	Stable for Infantry and officers' mounts	1911	do	Do.
1	Veterinary hospital and stable	1908	do	Do.
2	Shop buildings	1910	do	Do.

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

FORT D. A. RUSSELL, WYO.—Continued.

Number.	Designation of building.	When constructed.	Material of which constructed.	Present condition as shown by last annual estimate.
4	Cavalry shop buildings	1908	Brick	Good.
2	Quartermaster's shop buildings	1905	do	Do.
4	Artillery gun sheds	1908	Stone	Do.
2	do	1909	Frame	Do.
2	Quartermaster's storehouses	1909	Brick	Do.
1	Quartermaster's storehouse	1888	do	Do.
1	Commissary storehouse	1904	do	Do.
2	Commissary storehouses	1910	do	Do.
1	Magazine	1910	Concrete	Do.
1	do	1885	Brick	Do.
1	Ammunition storehouse	1910	Concrete	Do.
1	Commissary storehouse	Unknown.	Frame	Fair.
1	Quartermaster's paint shop	1890	do	Do.
1	Ice house	1910	do	Good.
1	Vegetable cellar	1907	Concrete	Do.
1	Forage storehouse	1908	Brick	Do.
2	Granaries	1909	do	Do.
1	Forage house	1900	Stone	Do.
1	Hay shed	1906	Corrugated steel	Do.
1	do	1908	do	Do.
1	do	1909	Frame	Do.
2	Coal sheds	1909	do	Do.
1	Coal shed	1904	do	Do.
2	Storehouses	1890	do	Do.
1	Oil house	1885	Brick	Do.
1	Quartermaster's storehouse	1904	Frame	Do.
1	do	Unknown.	do	Do.
1	Post hospital	1909	Brick	Do.
1	Administration building	1894	do	Do.
1	Telegraph and post office	1907	do	Do.
1	Hospital Corps barrack	Under construction.	do	Not yet completed.
1	School and chapel	1887	do	Good.
1	Guardhouse	1901	do	Do.
1	do	1909	do	Do.
2	Exchange buildings	1910	do	Do.
1	Infantry exchange	1905	do	Do.
1	Fire-station building	1908	do	Do.
2	do	1909	do	Do.
2	Dispensaries	1909	do	Do.
1	Bakery	1903	do	Do.
1	Transformer substation	1909	do	Do.
1	Cavalry drill hall	1907	do	Do.
1	Wagon shed	1906	Frame	Do.
1	do	1910	do	Do.
1	Railroad track scale	1908	Wood	Do.
2	Band stands	1911	do	Do.
1	Wagon shed	1911	do	Do.
1	Guardhouse	1911	Brick	Do.
1	Laundry	1911	do	Do.
1	Stable guard and shop	1911	do	Do.
1	Administration building	1911	do	Do.
1	do	1911	do	Do.
1	Root cellar	1911	Concrete	Do.
1	Crematory	1908	Corrugated steel	Do.
1	Water tank	1908	Steel	Do.
1	Post hall	1879	Frame	Do.
1	Pumping station	Unknown.	Brick	Do.
1	Filter reservoir	1890	Stone	Do.
1	do	1890	do	Do.
1	Carpenter shop	1885	Frame	Do.
1	Old crematory building	1904	do	Fair.
2	Stable guard buildings	1908	do	Good.
1	Quartermaster's corral office	1904	Brick	Do.
2	Stable guard and shop buildings	1906	do	Do.
3	do	1909	do	Do.

Total number of buildings at post, 273.

Water supply.—The Government entered into an agreement with the city of Cheyenne by which the Government paid $400,000 toward the construction of a complete water system, the city to furnish all labor and the balance of the cost of construction. Supply unlimited, and no record kept of amount used. Condition of system good.

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

FORT DOUGLAS, UTAH.

Number.	Designation of building.	When constructed.	Material of which constructed.	Present condition as shown by last annual estimate.
.....	Administration building	1876	Stone	Fair.
.....	Hospital storehouse	1902	Brick	Do.
.....	Office building	1884	Stone and brick	Do.
.....	Post hall	Unknown.	Frame	Poor.
.....	Old bakery	1884	Stone	Bad.
.....	Oil house	Unknown.	.....do	Poor.
.....	Civilian teamsters' quarters	Unknown.	Frame	Fair.
.....	Magazine	1885	Brick	Poor.
.....	Old coal shed	1884	Frame	Bad.
.....	Civilian employees' quarters	Unknown.	.....do	Fair.
.....	Tinner's and plumber's shops	Unknown.	.....do	Poor.
.....	Paint shop	Unknown.	.....do	Do.
.....	Carpenter shop	Unknown.	.....do	Do.
.....	Wheelwright and blacksmith shop	Unknown.	.....do	Do.
.....	Post office	Unknown.	Log and frame	Bad.
.....	Morgue	Unknown.	Stone	Fair.
.....	Ice house	1895	Frame	Poor.
.....	Post chapel	1884	.....do	Do.
.....	Noncommissioned staff officers' quarters	Unknown.	.....do	Fair.
.....	.....do	Unknown.	.....do	Poor.
.....	.....do	Unknown.	.....do	Fair.
.....	Married soldiers' quarters	Unknown.	.....do	Bad.
.....	.....do	Unknown.	.....do	Do.
.....	.....do	Unknown.	.....do	Do.
.....	.....do	Unknown.	.....do	Do.
.....	Noncommissioned officers' quarters	Unknown.	.....do	Fair.
.....	Officers' mess and club	1891	.....do	Do.
.....	Noncommissioned officers' quarters	Unknown.	.....do	Do.
.....	Hospital steward's quarters	1893	.....do	Do.
.....	Commanding officer's quarters	1876	Stone and brick	Good.
.....	Old hay storehouse	1897	Iron covered	Do.
.....	Bathhouse	1897	Brick	Poor.
.....	Civilian employees' quarters	Unknown.	Frame	Fair.
.....	Post exchange	1904	Brick	Good.
.....	Double barracks	1904	.....do	Fair.
.....	.....do	1905	.....do	Do.
.....	.....do	1904	.....do	Do.
.....	.....do	1911	.....do	New.
.....	.....do	1910	.....do	Do.
.....	.....do	1909	.....do	Good.
.....	Bachelor officers' quarters	1904	.....do	Do.
.....	Band barrack	1910	.....do	New.
.....	Guardhouse	1905	.....do	Good.
.....	Granary	1906	Corrugated iron	Do.
.....	Bakery	1909	Brick	Do.
.....	Hospital	1909	Stone and brick	Do.
.....	Bowling alley	1910	Brick	New.
.....	Ordnance storehouse	1910	Corrugated iron	Do.
.....	Garbage crematory	1909	.....do	Do.
.....	Clothing storehouse	1910	Brick	Do.
.....	Double officers' quarters	1910	.....do	Do.
.....	Transformer substation	1910	.....do	Do.
.....	Double officers' quarters	1876	Stone	Fair.
.....	.....do	1876	.....do	Do.
.....	.....do	1876	.....do	Do.
.....	.....do	1876	.....do	Do.
.....	.....do	1876	.....do	Do.
5	.....do	1876	.....do	Do.
3	.....do	1884	Frame	Do.

Total number of buildings at post, 65.

Water supply.—Supplied by gravity system from Red Butte Canyon. Condition of system good.

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STATEMENT B.—*Showing the various buildings, etc., also the present water supply and its condition at the posts mentioned in House Resolution 398 for abandonment*—Contd.

FORT LOGAN, COLO.

Number.	Designation of building.	When constructed.	Material of which constructed.	Present condition as shown by last annual estimate.
9	Double sets officers' quarters	1889	Brick	Good.
6	Single Infantry barracks	1889	do	Do.
1	Hospital building	1889	do	Do
1	Quartermaster's storehouse	1889	do	Do.
1	Bakery	1889	do	Do.
1	Boiler and engine house	1889	do	Do.
1	Water tank	1889	do	Do.
1	Pump house	1889	do	Do.
1	Dead house	1889	do	Do.
6	Outhouses	1889	do	Do.
1	Field officers' quarters	1890	do	Do.
1	Commanding officer's quarters	1891	do	Do.
1	Field officers' quarters	1898	do	Do.
1	do	1894	do	Do.
1	do	1894	do	Do.
8	Sets bachelor officers' quarters	1896	do	Do.
1	Double set officers' quarters	1898	do	Do.
1	do	1892	do	Do.
1	do	1892	do	Do.
1	Double set noncommissioned officers' quarters	1892	do	Do.
2	do	1892	do	Do.
1	Hospital steward's quarters	1891	do	Do.
1	Band barrack	1894	do	Do.
2	Cavalry barracks	1892	do	Do.
1	Double Infantry barrack	1894	do	Do.
1	Headquarters building	1890	do	Do.
1	Post exchange and gymnasium	1904	do	Do.
1	Guardhouse	1894	do	Do.
1	Stable guardhouse	1894	do	Do.
1	Coal and storage house	Unknown.	Corrugated iron	Poor.
1	Hay storehouse	1896	do	Good.
1	Commissary storehouse	1898	Brick	Do.
1	Quartermaster's stable	1891	do	Do.
2	Cavalry stables	1891	do	Do.
1	Stable (pack mules)	1904	Frame	Do.
1	Magazine	1892	Brick	Do.
1	Gun shed	1892	do	Do.
1	Wagon shed	1892	Corrugated iron	Do.
1	do	1904	Frame	Do.
1	Quartermaster's shops	1892	Corrugated iron	Do.
1	Granary	1892	Brick	Do.
1	Oil house	1894	Crorugated iron	Do.
1	Balloon house	1897	do	Do.
1	Ice house	1897	do	Poor.
1	Civilian employees' quarters	1907	Brick	Good.
1	Wagon shed	1907	Frame	Do.
1	Stable for target range	1908	do	Do.
1	Forage house for target range	1908	do	Do.
1	Addition to hospital building	1908	Brick	Do.
1	do	1909	do	Do.
1	Isolation hospital	1910	do	Do.
1	Laundry building	1910	do	Do.
1	Ice house	1910	Frame	Do.

Total number of buildings at post, 81.
Water supply.—Water pumped from wells. Quality excellent. Condition of system, new.

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STATEMENT C.—*Abstract of replies received relative to the maximum and minimum valuation of land, buildings, and water supply at posts contemplated for abandonment.*

Posts.	Land.		Buildings.		Water supply.	
	Minimum value.	Maximum value.	Minimum value.	Maximum value.	Minimum value.	Maximum value.
Brady, Fort, Mich	.....	.....	$50,000.00	$300,000.00	.....	.....
Clark, Fort, Tex	$15,465.84	$96,661.50	3,000.00	75,000.00	$2,000.00	$12,000.00
D. A. Russell, Fort, Wyo	.....	424,325.25	.....	4,199,708.84	.....	741,618.72
Lincoln, Fort, Nebr	18,750.00	37,500.00	90,000.00	337,500.00	5,000.00	33,000.00
Logan H. Roots, Fort, Ark.	160,500.00	321,000.00	334,182.13	355,421.53	13,006.50	26,011.00
McIntosh, Fort, Tex	31,200.00	62,400.00	198,400.00	222,200.00	4,000.00	6,000.00
Mackenzie, Fort, Wyo	125,600.00	251,200.00	839,702.00	862,533.00	240,000.00	275,000.00
Meade, Fort, S. Dak	441,162.50	685,860.00	50,000.00	250,000.00	20,000.00	30,000.00
Robinson, Fort, Nebr	75,000.00	100,000.00	25,000.00	70,000.00	(1)	(1)
Wayne, Fort, Mich	417,500.00	584,500.00	15,000.00	230,000.00	.....	5,500.00
Ethan Allen, Fort, Vt	20,000.00	40,000.00	75,000.00	150,000.00	10,000.00	40,000.00
Jay, Fort, N. Y	4,000,000.00	6,000,000.00	65,000.00	250,000.00	5,000.00	30,000.00
Madison Barracks, N. Y	2,200.00	35,000.00	130,000.00	300,000.00	2,000.00	12,000.00
Niagara, Fort, N. Y	28,850.00	45,000.00	50,000.00	100,000.00	2,000.00	2,500.00
Ontario, Fort, N. Y	(2)	(2)	69,500.00	84,000.00	500.00	1,000.00
Plattsburg Barracks, N. Y.	20,000.00	100,000.00	100,000.00	500,000.00	5,000.00	.....
Apache, Fort, Ariz	18,552.35	74,211.40	20,000.00	40,000.00	3,000.00	5,000.00
Boise Barracks, Idaho	259,663.50	820,663.50	20,800.00	107,900.00	5,000.00	40,000.00
Douglas, Fort, Utah	2,000,000.00	2,730,000.00	5,000.00	14,000.00	20,000.00	30,000.00
Geo. Wright, Fort, Wash	715,960.00	920,520.00	623,896.88	700,000.00	20,445.00	22,717.22
Missoula, Fort, Mont	22,800.00	215,080.00	.....	.....	.....	.....
Whipple Barracks, Ariz	5,770.00	5,770.00	22,621.12	46,868.05	700.00	2,800.00
Wm. H. Harrison, Fort, Mont	28,290.00	70,800.00	17,442.00	174,427.00	250.00	2,500.00
Yellowstone, Fort, Wyo	.....	.....	91,829.50	303,219.00	.....	.....
Logan, Fort, Colo	63,807.00	113,220.00	50,000.00	90,000.00	10,000.00	18,000.00
Total	8,471,071.19	13,733,711.65	2,946,373.63	9,762,777.42	367,901.50	1,335,646.94

[1] Included in value placed on buildings and land.
[2] Land to revert to State of New York when no longer required for military purposes, as provided by deed.

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STATEMENT C.—*Abstract of replies received relative to the maximum and minimum valuation of land, buildings, and water supply at posts contemplated for abandonment*—Continued.

Posts.	Total minimum value.	Total maximum value.	Remarks.
Brady, Fort, Mich	$80,000.00	$300,000.00	Figures include land and water system, separate amounts not being stated.
Clark, Fort, Tex	20,465.84	183,661.50	Judge Veltman, county judge, stated the Southern Pacific Ry. have offered $200,000 for this reservation with water privileges.
D. A. Russell, Fort, Wyo		5,365,652.81	Minimum valuation not given separately. The quartermaster states $100,000 would be the minimum valuation, being arrived at by considering the value of land, etc., if post was abandoned. If such action were taken, believes the land would greatly depreciate in value, and there would practically be no market for same.
Lincoln, Fort, Nebr	113,750.00	408,000.00	
Logan H. Roots, Fort, Ark.	507,688.63	702,432.53	
McIntosh, Fort, Tex	233,600.00	290,600.00	
Mackenzie, Fort, Wyo	1,205,302.00	1,388,733.00	Value of water system arrived at by comparing with city system.
Meade, Fort, S. Dak	511,162.50	965,860.00	Value of land includes timber reserve comprising 27,293 acres.
Robinson, Fort, Nebr	100,000.00	170,000.00	
Wayne, Fort, Mich	432,500.00	820,000.00	
Ethan Allen, Fort, Vt	105,000.00	230,000.00	
Jay, Fort, N. Y	4,070,000.00	6,280,000.00	
Madison Barracks, N. Y	134,200.00	347,000.00	
Niagara, Fort, N. Y	80,850.00	147,500.00	
Ontario, Fort, N. Y	70,000.00	85,000.00	
Plattsburg Barracks, N. Y	125,000.00	600,000.00	
Apache, Fort, Ariz	41,552.35	119,211.40	
Boise Barracks, Idaho	285,463.50	968,563.50	
Douglas, Fort, Utah	2,025,000.00	2,774,000.00	
Geo. Wright, Fort, Wash	1,360,301.88	1,643,237.22	
Missoula, Fort, Mont	22,800.00	215,080.00	Included in the figures given for the reservation is a timber reserve of 1,577 acres, the value of which as given by the Government Forestry Office is $63,000, and is included under "Maximum value." No estimate could be obtained from any dealers as to the probable value of the buildings and water supply, as they are practically valueless unless they are needed for an institution of some kind, and the need for such use at this time is not apparent. For military purposes the buildings would be worth $500,000.
Whipple Barracks, Ariz	29,091.12	55,438.05	Maximum value of buildings was arrived at by considering that it might be possible to sell the whole number to the State for a school or institution. If this could not be done, it would seem that the only way to dispose of them would be to the wrecking companies, from whom the minimum value was obtained
Wm. H. Harrison, Fort, Mont	45,982.00	247,727.00	
Yellowstone, Fort, Wyo	91,829.50	303,219.00	This reservation is part of the Yellowstone National Park, and has no salable value. The maximum value of the buildings is based on their present worth were they located in a corporation of the size of Mammoth Hot Springs outside the park. Their minimum value is based on what could actually be obtained for them under existing circumstances. No buildings at the post could be moved outside the park, as the distance of 5 miles and the character of the road make this impossible.
Logan, Fort, Colo	123,807.00	221,220.00	
Total	11,785,346.32	24,832,136.01	

QUARTERMASTER GENERAL'S OFFICE, *May 11, 1912.*

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62D CONGRESS, 2d Session | HOUSE OF REPRESENTATIVES | DOCUMENT No. 762

WOMAN SUFFRAGE

Serial No. 2

HEARINGS

BEFORE THE

COMMITTEE ON THE JUDICIARY

HOUSE OF REPRESENTATIVES

SIXTY-SECOND CONGRESS
SECOND SESSION

MARCH 13, 1912

MAY 18, 1912.—Ordered to be printed

WASHINGTON
GOVERNMENT PRINTING OFFICE
1912

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[H. Res. 532, 62d Cong., 2d sess.]

CONGRESS OF THE UNITED STATES,
IN THE HOUSE OF REPRESENTATIVES,
May 18, 1912.

Resolved, That sixteen thousand copies of the hearings before the Committee on the Judiciary, Sixty-second Congress, second session, March thirteenth, nineteen hundred and twelve, entitled "Woman Suffrage," serial number two, be printed for the use of the House document room.

Attest:

SOUTH TRIMBLE, *Clerk*.

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COMMITTEE ON THE JUDICIARY.

HOUSE OF REPRESENTATIVES.

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WOMAN SUFFRAGE.

SERIAL NO. 2.

COMMITTEE ON THE JUDICIARY,
HOUSE OF REPRESENTATIVES,
Wednesday, March 13, 1912.

The committee met at 10.30 o'clock a. m., Hon. Henry D. Clayton (chairman) presiding.

The CHAIRMAN. The committee will be in order. At a previous meeting of the Committee on the Judiciary, in response to a request made by several Members of the House and by two ladies, to-day was set apart by the committee for the hearing of those who advocate the amendment of the Constitution providing for woman's suffrage. Since the committee has met this morning I have been requested by a lady, representing other ladies in opposition to the resolutions now under consideration by the committee, that she be accorded 10 or 15 minutes at the conclusion of the hearing to-day to present the views of these ladies to the committee. I have conferred with some members of the committee, and they have thought, following precedents obtaining in like requests in cases of former hearings, that that request ought to be accorded. I deem it proper to advise the ladies who asked for this hearing of that request at this time, and I would think it fair to the ladies who have asked for this hearing that they be given an opportunity, if they see fit, to reply to any statements or arguments that may be made by the ladies in opposition to these resolutions.

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I wish to know, for the benefit of the committee, what lady will apportion the time to-day, among the advocates of these resolutions.

Miss ADDAMS. I will do it, Mr. Chairman.

The CHAIRMAN. Miss Jane Addams, of Illinois.

The committee has several resolutions before it, House joint resolution 201, introduced by Mr. Raker, of California, House joint resolution 198, introduced by Mr. Lafferty, of Oregon, House joint resolution 91, introduced by Mr. Taylor, of Colorado, House joint resolution 213, introduced by Mr. Berger, of Wisconsin, House joint resolution 87, introduced by Mr. Mondell, of Wyoming, and House joint resolution 17, introduced by Mr. Rucker, of Colorado, all relating to this same subject; that is, the proposition to amend the Federal Constitution to provide for woman's suffrage.

I may say to the ladies who have been accorded this hearing that this committee heretofore, on similar occasions, has not limited the ladies as to the time they wished to use in putting their views before the committee. We have, I think without exception, heretofore given the ladies a whole day on this subject, and the committee has the permission of the House to sit during the sessions of the House. With that statement, I will say to the ladies the committee will hear you this morning until 12 o'clock, and then the committee will take a recess for lunch and for a brief attendance upon the House, and then they will come back after lunch, at such time as may be agreed upon by the members and by the ladies advocating these resolutions.

At this time I may say, Miss Addams, you may proceed in such manner as you ladies have agreed upon. I suppose if you have made any allotment of time, that you will advise the chairman whenever any speaker has consumed her allotted time.

Miss ADDAMS. We have nine speakers, Mr. Chairman, and have given each of them 10 minutes. Perhaps, by shortening them a little, we can conclude by 12 o'clock.

The CHAIRMAN. I should be very sorry to have the ladies feel compelled to shorten their speeches.

Miss ADDAMS. We would like to show you, Mr. Chairman, that we can make short speeches.

The CHAIRMAN. I believe we are to have a short statement by Mr. Taylor, of Colorado.

REMARKS OF HON. EDWARD T. TAYLOR, REPRESENTATIVE AT LARGE FROM COLORADO, INTRODUCING MISS JANE ADDAMS.

Mr. TAYLOR of Colorado. Mr. Chairman and members of the Judiciary Committee. My colleague, Judge Rucker, was to be accorded the honor of presenting to the committee the distinguished lady who will preside and introduce the speakers. But owing to his illness this morning that courtesy, which I very highly appreciate, has been extended to me. But before doing so, permit me to say on behalf of the authors of the various bills providing for constitutional amendments now pending before your committee, as just mentioned by your chairman, that while we do not desire to take up any of the time of the committee to be heard at present, because this is a women's meeting; nevertheless, if your committee desires to hear from us at any time in support of our respective bills, or if you will permit us to make a statement to go into the hearings, we will be pleased to avail ourselves of that opportunity. Personally I should like to make

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and have it appear in the record a brief statement of the results of woman suffrage in the State of Colorado during the past 18 years. Our good women have made a splendid and most brilliant record, of which the Centennial State is supremely proud. I especially would like to insert in the record a brief mention of 150 of the wisest, most humane, and progressive laws in this country for the protection of the home and the betterment of society which the women of Colorado have caused to be placed upon the statute books of our State during the last 10 sessions of our legislature. However, I will not until after the ladies have spoken ask to take the attention of the committee, nor detain this splendid audience and all of these eminent women speakers longer; but will simply say that I am exceedingly proud to be accorded the distinction and pleasure of presenting to this committee and this audience the first vice president of the National American Woman Suffrage Association, a lady whom you and all this country know and honors, Miss Jane Addams, of Hull House, Chicago. [Applause.]

REMARKS OF MISS JANE ADDAMS, OF CHICAGO, ILL.

Miss ADDAMS. Mr. Chairman and gentlemen of the committee, in presenting our arguments for your consideration in regard to these amendments to the Constitution, we would like first to draw your attention to the fact that women have suffrage already, to a very large extent, in the United States. More than a million women will be eligible to vote for President of the United States next November. More than half a million in addition have the municipal franchise. In fact, the remaining women of America are almost the only English-speaking women in the world who are deprived of the municipal franchise. In England women vote upon all civic matters, and all of the women in the English colonies also vote upon municipal affairs. The women in the north, particularly Finland, Sweden, and Norway, have the full franchise; and America, so far from being in the lead in the universal application of the principle that every adult is entitled to the ballot, is fast falling behind the rest of the world. A hundred years ago we occupied an advanced position in regard to the extension of the franchise; at the present moment we are quite behind in this belief that every adult is entitled to representation in his own governmental affairs.

As I have been engaged for a good many years in various philanthropic undertakings, perhaps you will permit me, for only a few moments, to speak from my experience. A good many women with whom I have been associated have initiated and carried forward philanthropic enterprises, which were later taken over by the city, and thereupon the women have been shut out from the opportunity to do the self-same work which they have done up to that time. In Chicago the women for many years supported school nurses who took care of the children, both made them comfortable and kept them from truancy. When the nurses were taken over by the health department of the city the same women who had given them their support and management were shut out from doing anything more in that direction. And I think Chicago will bear me out when I say that the nurses are not now doing as good work as they did before.

I could also use the illustration of the probation officers in Chicago who are attached to the juvenile court. For a number of years

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women selected and supported these probation officers. Later, when the same officers, paid the same salary, were taken over by the county and paid from the county funds, the women who had had to do with the initiation and beginning of the probation system, and with the primary and early management of the officers, had no more to do with them. At the present moment the juvenile court in Chicago has fallen behind its former position in the juvenile courts of the world. I think the fair-minded men of Chicago will admit that it was a disaster for the juvenile court when the women were disqualified, by their lack of the franchise, to care for it.

The juvenile court has to do largely with delinquent and dependent children, and I think there is no doubt that on the whole women can deal with such cases better than men, because their natural interests lie in that direction. I could give you many other examples.

The establishment of a sanitarium for the care of tubercular patients in Chicago was begun by some philanthropic women, and later on, when these also were put under the care of the city, these women were shut out, save as they were permitted to do some work through the courtesy of the officials. Sometimes the officials are very courteous to them and glad to have their assistance; sometimes they quite resent the suggestions offered them, claiming it is "up to" them to take care of the city affairs, and that women are only interfering when they try to help.

So, it seems fair to say, if women are to keep on with the work which they have done since the beginning of the world—to continue with their humanitarian efforts which are so rapidly being taken over into the Government, whether wisely or not is not for me to say, and which, when thus taken over by the Government, are often not properly administered, that the women themselves will have to have the franchise.

The franchise is only a little bit of mechanism which enables the voter to say how much money shall be appropriated from the taxes, of which women pay so large a part. When a woman votes, she votes in an Australian ballot box, very carefully guarded from roughness, and it seems to us only fair to the State activities which are so largely humanitarian that women should have this opportunity.

I am going to introduce, Mr. Chairman, women who will represent different points of view in regard to suffrage for women, a matter which seems to us so important.

Perhaps no class of women in the entire community need the ballot so much as the working women. I am sure you are conversant with the splendid series of reports being issued by the Federal Department of Commerce and Labor upon the condition of women and children wage earners in the United States, in which this is being demonstrated. You will be glad to hear, I am sure, from Miss Leonora O'Reilly, of New York, who has done so much to improve the condition of working women. It gives me very much pleasure to introduce Miss O'Reilly, who will speak to you for 10 minutes.

REMARKS OF MISS LEONORA O'REILLY, NEW YORK CITY.

Miss O'Reilly. Mr. Chairman and gentlemen of the committee. I ask this committee in all seriousness to understand that we working women are not asking for the vote for fun; we need the

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vote for self-protection. Gentlemen, you may tell us that our place is in the home. Do not make fun of us, please. There are 8,000,000 of us in these United States who must earn our daily bread. Now, in all seriousness, because we must earn that bread, we come to tell you that while we are working in the mills, the mines, the factories, and the mercantile houses, we have not the protection that we should have. Gentlemen, you have been making laws for us; now, we want to make laws for ourselves, because the laws you have made have not been good for us. Year after year working women have gone to the legislature in every State; they have tried to tell their story of need in the same old way. They have gone to you, believing as they do believe, in the strength of the big brother; believing that the big brother could do for them what they should, as citizens, do for themselves.

They have seen, time after time, the power of the big interest come behind the big brother and say to him: "If you grant the request of these working women you die, politically." It is because the working women have seen this that they now demand the ballot. In New York, and in every other State, we plead for shorter hours. When the legislators learn that women to-day in every industry are being overspeeded and overworked most legislators would, if they dared, vote protective legislation for the women. Why do they neglect the women? We answer, because those who have the votes have the power to take the legislator's political ladder away from them, a power that we, who have no votes, do not have. The getting of the vote and the use of the vote for self-protection as a class is another thing we working women are going to do; we are going to do it as well as we have done our work in the factory, mill, office, and shop. The world to-day knows that the women in industry are making good. But we working women maintain that the rest of the world are not keeping faith with us, in that they are driving us like mad, burning us alive, or working us to death for profits. We, of New York, remember the Triangle fire cases; we saw our women burned alive, and then when our people appealed to the courts and tried to get justice we got instead the same old verdict from the courts, "Nobody to blame." The ballot is a matter of necessity with working women. We come to you to-day to say we want you to put behind you all your prejudice against votes for women; we ask you for fair play. Deal with us as you would want to be dealt by. When the workingmen come to you with the power of the ballot they make you listen. We want the power of the ballot for the same reason. If there is a man who will not be just, we mean to put him out of politics. If there is a man in office who is serving humanity fairly, we will keep him in office to help make our land what it ought to be.

Gentlemen, that is my message to you from working women in general, and from all organized working women and workingmen in particular. Working women want the power to protect themselves. Working women want the opportunity to work effectively for decent factory laws, sane labor laws. Working women know that we will never have a universal child-labor law until we have the heart of all the women of the land behind the framing and the enforcing of such a law.

While the doors of the colleges have been opened to the fortunate women of our country, only one women in a thousand goes into our

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colleges, while one woman in five must go into industry to earn her living. And it is for the protection of this one woman in every five that I speak.

You may say the vote was never given as a right, but rather as an expedient to any group of people. Then we demand it as an expedient. It is time that these women who work in the factories, or wherever they work, contracting the diseases known as occupational diseases, were given an opportunity to clean our political house of its disease germs.

It is in a wretchedly unhealthy condition to-day. Men, let the women come in and help you in this political house cleaning. You have got it into an awful mess; we only ask you to do the thing you have done since Adam, namely, turn the burden of responsibility over to woman when it gets too big for you or you fear the consequences. Let us help you now, or if you will not it will look as if you are afraid of the kind of house cleaning we will give you. Well, we will give it to you, as sure as fate, because we are on this job to win. [Applause.] We see that there is not a thing in the way of this right which we are asking but prejudice or fear; we are pleading for the right to use our intelligence, as you use yours at the ballot box. You believe you protect us. You say you want to take care of the women. I can tell you as a working woman we know you have made a very bad job of the protection and caretaking. [Laughter and applause.] A working woman has to deal with the facts of life; she knows when she is overtired, when her finger is taken off by a machine just because she was too tired to take it out. That is what one of my girls calls a "fac'." Now, men, we working women deal in "fac's." We want the ballot in order that we may straighten out all of this economic and political mess that your superior intelligence has gotten us into. Is that straight? Well, that is what the working woman wants. [Applause.]

Miss ADDAMS. The next speaker on the program—we are going to confine the men to five minutes—is Representative Raker, of California.

REMARKS OF HON. JOHN E. RAKER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA.

Mr. RAKER. I will be under the five-minute rule, Mr. Chairman.

The CHAIRMAN. Miss Addams will keep the time on you.

Mr. RAKER. Mr. Chairman and gentlemen of the committee, I want to make a little statement in advance so that the committee may understand my position. This subject has been in my family for over 25 years. It was first taken up by my father-in-law, Judge E. V. Spencer, in the State legislature of California, and he succeeded in putting through that legislature the first constitutional amendment on this subject. It was taken before the people and defeated by a few votes.

Following that some three or more years (after the death of Mr. Spencer) my mother-in-law gave her time and attention before the legislature upon that subject; last year she gave some three months of her time in the State of California, in the county seats of 21 counties, working for the cause of equal suffrage in behalf of this cause. I speak of this to show that it is not a new thought with

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me, as I have been in close touch and believed in the justice of this cause for many years.

When I first became a candidate for Congress, this organization wrote me and wanted to know where I stood. I said I was in favor of women voting, and that if I had the opportunity I would place before the House a resolution and would give it my support in the committee and vote for it in the House if the opportunity presented. I have made good so far by introducing resolution 201.

Mr. Chairman, this matter, as it appears to me, has passed beyond the question of sentiment; it has passed beyond the question of advisability, it has passed beyond the question of whether or not women ought to participate in the vote for the benefit of the home, for the benefit of better laws; and, as I view it, is a clean cut question of absolute right; and upon that statement I base my argument, that it is not the question of suffrage, not the question of who is a suffragist and who is not, but it is that we to-day are depriving one-half of the intelligence, one-half of the ability of this Republic from participating in public affairs, they are just as much interested, and have the same rights under the law to exist and to live and to work for what is right as we have, and I believe, from the economic standpoint, from the standpoint of better laws, better existence, better homes, better government in the county, in the city, in the State, and in the Nation, that we need our wives', our sisters', and our mothers' votes and assistance in elections; that you, after making promises, and after saying you will carry out certain laws on behalf of the country, and proper administration of men, that you will not simply look upon the women as though they were not human beings, and class them with the Chinese, Japanese, and others, but realize and appreciate that they are human beings, with the power and with the right and with the responsibility resting upon their shoulders the same as ours, and I am very sincere and earnest on that question.

There can be no doubt but what there is a special work for women in every walk of life. They are entitled to the ballot because of the greater influence it will give them in the affairs of life, dear to the hearts of all femininity.

Miss ADDAMS. The next speaker, Mr. Chairman, is also from New York, Mrs. Penfield, who will address you upon her experience in finding much of the city work taken out of their hands when it is taken over by the city. The door of the House of State, so to speak, is shut in their faces, when their precious little enterprise is toddling across the threshold.

REMARKS OF MRS. JEAN NELSON PENFIELD, OF NEW YORK, N. Y.

Mrs. PENFIELD. Gentlemen, I believe, if I know the make-up of this committee, none of you come from an equal-suffrage State. This is unfortunate for us, because the majority of men who come from equal-suffrage States are our friends, because they know that woman suffrage is not only just, but that it is practical and expedient. I believe, however, that there is, perhaps, not a man on this committee who is not familiar with the civic work which women are doing, and it is upon this particular question I have been asked to speak. The women of the present face an altogether different world from that which our mothers and grandmothers looked upon; a world in

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which social and economic problems, which they never knew, but which vitally effect us, demand solution. As we have been forced to realize how our old interests, such as home and children, have in our complex civilization become community interests, we have begun our adjustment through practical work for social service and community betterment.

Now, because women have been able to accomplish many things for civic betterment without the ballot, a great many people think that we do not need the ballot. I ask you to remember at the beginning, however, that the important fact is not that women finally accomplish things, but that when they do succeed in their civic work without the franchise—and, by the way, the failures are not recorded—they accomplish what they do at the greatest and most needless expenditure of time and vital strength, and at the cost to the individual, and therefore, of course, in the end, to the social world, of self-respect and dignity.

Now, these things are important, because the dominant thought in the world to-day is conservation. The great tendency in all the business world is toward economy. The question that every business man is asking himself is how he can lessen the cost of production, how he can arrange his methods and adjust his machinery in order to secure the least possible friction. This is a question which not only business men are asking themselves, but you, also, as legislators, are asking in the affairs of state. An intelligent man in this scientific day would refuse to do a thing by indirect and wasteful processes that could be accomplished in a direct, swift, and economic way. Even the bricklayer is to-day taught how he can handle his bricks with the least possible expenditure of energy in order to secure the best results. Women seem to represent the only great body of energy and talent that is unconserved, unutilized, and recklessly wasted along the byways of life. When men have a public wrong they want rectified they go armed with their votes to the ballot box, just as they also use the influence of the franchise with legislators after they are in office, but when women would seek redress or remedy for public wrong they must accomplish their desire by the long, hard, and indirect process, a questionable process at best, and one wasteful of vital energy and time. That this method may be effective in the end; that through it women have accomplished many good results; even that with the ballot we would not accomplish all we might try for—these things are not important compared with the fact that in the twentieth century, in a progressive, democratic Government, when the very air teems with the words "efficiency" and "conservation," and even the poorest mechanic knows the economic necessity of using the best, most up-to-date tools, that nearly one-half the citizens of the country should by statutes be condemned to do what patriotic service they may wish to do with the implements of a day that is dead and gone. This is the disgrace. It took the Woman's Health Protective League of New York eight long years to convince the board of health that an antispitting ordinance was necessary. Everybody in New York now demands pure milk, but I assure you it has taken a long time to secure the present splendid system of inspection, after a few women discovered and made public a number of years ago the facts about the filthy city stables, with their diseased cows. The ordinance for the protec-

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tion of meats and vegetables in New York represents a labor of years by this same body of women, and so I might go on indefinitely.

Miss Addams has spoken of the splendid civic work of women in Chicago. She did not mention a number of things that might have been added, because the Chicago Woman's Club has inaugurated a great many things that have since been taken over by the city and State, notably the cottage system of the Illinois Industrial School and the kindergarten work and open-air school, while the juvenile court is the direct result of an investigation of Cook County jail by the Chicago Woman's Club, and the Legal Aid Society is the outgrowth of the Woman's Protective Association, started by the same club. It was the Iowa Congress of Mothers that finally secured the Iowa juvenile court, while in Pennsylvania this court is largely due to the Federated Women's Clubs. When women went into our public schools and reported epidemics of disease which were preventable by the observance of ordinary sanitary conditions action finally came. When in New York they found children sitting on their folded, rain-soaked garments for the lack of hooks to hang them on, a new building, equipped with cloakrooms, was finally provided, but not without undue petitioning and great delay. The Boston women took a chemical analysis of air in classrooms, and finally the city appropriated $300,000 to provide proper ventilation. The now well-established institutions of manual-training and domestic-science schools, playgrounds, and school gardens were all once "women's notions." As Miss Addams has said, these things have been done, but they have been done unscientifically, because not economically, from the social standpoint. In almost 9 cases out of 10, gentlemen, women have been made to finance these institutions and investigations personally. They have had to finance the institutions and demonstrate the success in each case before the city would acknowledge a public need and adopt them. This is not scientific, of course, nor what we would expect in the twentieth century. Besides this, let me call your attention to another notable feature in connection with women's successful civil work—one overlooked by many, but not to be overlooked much longer by wise statesmen. After women have made a success of these institutions, have managed them and directed them, when they are taken over by the city or State, men alone control them. The entire management is taken from the women who, because of their interest and leisure, have established them. We have not complained very much about this, because we have been glad to see the work go on, but I ask you, as reasonable men, if it is to be supposed that women are going to relinquish their interests in these great institutions because they are taken over by the city? I ask you to realize that more and more thinking men all over the country are beginning to be more conscious of the way we are excluded from civic interests in which we have as great a stake as have men.

Take, again, the instance of the school. Women, because of their children, have been deeply interested in the public schools, and for the sake of their children and the children of the community decided that they must go on school boards. They finally secured place on the school board in Chicago in 1888, and in 1895 they got on the board in Philadelphia.

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Now, gentlemen, since that time a great many women have gone on school boards and have done effective work. I call your attention, however, to the fact that you will find few instances where women are in the majority on school boards. You might just as well expect to find a Republican majority in the committees of the House of Representatives in the Sixty-second Congress. I believe I am right when I say also that there are few women, if any, on school boards where the position is a salaried one.

I ask you to realize that such treatment is but the result of our disfranchisement, as is our repeated failure to secure needed protective legislation for women and children in industry and our helplessness in the face of judicial annulments of hard-won legislative victories.

In view of all these things we feel it is time for you to report a measure which, at least in years to come, may be ratified by the States. We ask you to do this.

ADDRESS OF HON. EDWARD T. TAYLOR, REPRESENTATIVE AT LARGE OF THE STATE OF COLORADO, ON EQUAL SUFFRAGE IN COLORADO.

Mr. TAYLOR. Mr. Chairman, I am going to avail myself of this opportunity to do an act of simple justice to the women of my State, and at the same time extend a favor to the millions of good women of this country and render a service to this Nation.

I want to recite in a plain conversational way some of my personal experiences and individual observations extending over a period of 30 years of public life in Colorado, during nearly 19 years of which time we have had equal suffrage in our State. I may say at the outset that I am not going to enter into a joint debate, for three reasons: First, because I haven't the time; secondly, because every man who lives in an equal-suffrage State will agree with substantially everything I say—there is only one side to it, and nothing to argue with any man who personally knows the practical operations of woman suffrage—and, thirdly, because men who have never lived in a woman-suffrage State and have no personal experience or actual knowledge on the subject necessarily form their opinions largely upon prejudice and the rest upon hearsay, and there is little use of arguing the question or disputing with a man who does not individually know what he is talking about.

I am always glad, indeed, to tell people who want to learn, or discuss the subject with anyone who is willing to form an opinion from existing facts. But it is an utter waste of time and energy to argue with people who resolutely shut their eyes to present-day conditions and whose opinions are based wholly upon the ideas of former generations.

The mountain regions of the earth have ever been the birthplace of liberty and the home of freedom. I have from my boyhood days lived in the Centennial State, where we recognize our mothers and wives and our sisters and daughters as American citizens and treat them as our equals, where the men of our mountain homes have added justice to chivalry, and have long since learned, and have the candor and manhood to acknowledge, that our women's influence in

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the civic housekeeping of our cities, our counties, and the State itself is as beneficial and necessary as it is in every well-regulated home.

When I came to Congress I never realized, and I have not yet been able to fully understand the deep-seated prejudice, bias, and even vindictiveness against, and the astounding amount of misinformation there is everywhere back here in the East, concerning the practical operation of equal suffrage. I have been equally amazed and indignant at the many brazen assertions that I have seen in the papers and heard, that are perfectly absurd and without the slightest foundation in fact; and I have had many heated discussions on the subject during the past three years. But when I hear men and women who have never spent a week, and most of them not an hour, in an equal suffrage State, attempt to discuss the subject from the standpoint of their own preconceived prejudices and idle impressions, I feel like saying, "May the Lord forgive them, for they know not what they say." Let me say to them and to my colleagues in the House that it will not be 10 years before the women of this country, from the Pacific to the Atlantic, will be given the just and equal rights of American citizenship.

It is an old and true saying that an ounce of fact is worth a ton of theory, and it is equally true that the simple statement of one actual result of woman suffrage is worth more than all the dilettante, theoretical, antisuffrage speeches since the dawn of history.

Since coming to Congress I have been frequently asked by friends what we think of woman suffrage in Colorado and if the women actually vote and if we are satisfied with it and how it works. And when I tell them that it is an unqualified success and that I doubt if even 5 per cent of the people of the State would to-day vote to repeal it they ask me what it has accomplished, what the specific benefits are and what difference it makes, and many other questions concerning the practical operation and results of equal suffrage in our State.

I will first take up one of the most beneficial results that could ever come to any State and at the same time one that is so conclusive that it is indisputable. I believe that it is generally conceded by enlightened people that the laws of a State are a true index of its degree of civilization. I will, therefore, commence by giving a brief catalogue of some of the legislative measures that have been either introduced by the women or at the request of the various women's organizations and enacted into law as a direct result of the work of Colorado's most representative women citizens during the past 18 years since their enfranchisement.

The first general election after the adoption of equal suffrage in November, 1893, was in the fall of 1894, and the legislature elected at that time convened in January, 1895. I will take up seriatim each session of our legislature since, and very briefly mention only what appears to me the more important of the 150 laws enacted primarily through the influence of women in Colorado from 1895 to 1912, inclusive:

SESSION LAWS OF 1895.

The first women's bill introduced, senate bill 1, was an act establishing a State home for dependent and neglected children.

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Nearly the first bill in the house was Mrs. Holly's bill raising the age of consent to 18 years, the best law in the United States to-day for the protection of girls.

The next was an act making married women the joint guardians of their own children, with equal powers and duties.

Then followed acts—

Providing for placing of children out in good homes.

Protection of the property of infants and insane persons.

Prohibiting importation or sale of adulterated liquors.

Important amendments to school law for the deaf and blind.

Important amendments regulating practice of pharmacy and sale of harmful drugs and medicines.

Requiring record to be kept of all county poor.

Regulating examinations and grades of certificates of school-teachers.

Regulating the handling of the funds belonging to the State university.

Regulating the issuance of liquor licenses.

Providing for the "Keely cure" at county expense for habitual drunkards.

Preventing the display of anarchistic flags.

Providing penalty for officers violating their oath of office or neglecting their official duties.

There were three women members elected to this house. They were the first, and they, as well as all their successors, have served with credit to themselves and to the women of the State.

SESSION LAWS OF 1897.

An act, establishment of a State industrial school for girls.

Important amendments to school laws.

Liberal appropriations for Industrial School for Boys.

Regulating the practice of dentistry.

Prohibiting the sale of cocaine.

Abolishing capital punishment. (Capital punishment was four years afterwards restored, but only allowed in a very few extreme cases.)

There were three women members of the house during that eleventh session of the general assembly. There has never yet been a woman elected to the State senate.

SESSION LAWS OF 1899.

A splendid indeterminate sentence and parole law.

Compulsory-education law, for all children between 8 and 14 years.

Kindergartens are provided for in the schools.

Creation of county high schools.

Creation of library commission.

Board of lunacy commissioners established, to supervise asylums and inmates.

Making the white and lavender columbine the official State flower.

An exemption law, exempting sewing machines, bicycles, and other articles of poor people from attachments or execution.

A good mechanic's lien law, protecting rights of laborers.

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There were three women in the house during that session.

SESSION LAWS OF 1901.

A law for the care of the feeble-minded.

Colorado Humane Society constituted a State bureau of child and animal protection, to prevent wrongs to children and animals. (This law has been followed in many States.)

School-teachers are required once a week to give a lesson in the humane treatment of animals.

Prohibiting desecration of the flag, in the way of advertisements or otherwise.

Mrs. Heartz was the only woman member in the house that session.

SESSION LAWS OF 1903.

An act making father and mother the joint and equal heirs of their children. The best and nearly the first law of that kind in the United States.

An act protecting the household goods and the homestead, and requiring the signature of both husband and wife to either mortgage or sale.

Providing severe penalty for parents or anyone else for causing or contributing to the delinquency of children.

Making Lincoln's birthday a legal holiday—one of the first States to do so.

Making wages a preferred claim in case of suspension of business or receivership.

Regulating the sale of convict-made goods.

Exempting from garnishment or attachment 60 per cent of the wages due at any time to the head of a family.

Prohibiting the employment of any child 16 years of age or less in any unhealthy or dangerous occupation.

Prohibiting furnishing to a child under 16 any tobacco or cigarets.

Act prescribing and regulating hours of employment of women and children and preventing any girl or woman over 15 years of age from working more than eight hours a day in any position requiring her to stand or be on her feet. Every employer of females is compelled by law to provide suitable seats, and permit employees to use them whenever they are not necessarily engaged in active duties.

Family maintenance act, compelling a man to support his wife and children; also compelling children, if able to do so, to support their destitute and infirm parents.

Authorizing the joining of school districts and the creation of union high schools.

An elaborate codification of the law of wills and estates, making an up-to-date, complete, and exemplary probate law. A married woman can make a will and handle her property the same as her husband. Her property rights are fully protected.

Providing for free traveling libraries—160 of them.

Mrs. Ruble was the only member of the house that session.

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SESSION LAWS OF 1905.

An act amending laws and providing punishment for persons responsible for dependent neglected children.

Prohibiting the fighting of dumb animals or the injury of them in any kind of sports.

Preventing sale or use of dangerous explosives and regulating use of fireworks.

An eight-hour law for miners in underground mines and smelters.

Creation of State Board of Nurse Examiners for registering and regulating the practice of nursing.

Law against blacklisting and boycotting.

Providing for the State Historical and Natural History Society to secure collections, especially of the cliff dwellers.

There was no woman elected to that fifteenth session of our general assembly.

SESSION LAWS OF 1907.

A splendid pure food and drug law. A former member of the legislature, and a noble woman, Mrs. Martha A. B. Canine, now deceased, is primarily entitled to the credit for the enactment of that law.

Requiring State Board of Charities and Corrections to care for indigent aliens.

Creation of State commission on prison labor.

Severe law against all kinds of cheats, swindlers, deceptions, frauds, and bunkoing of the public.

Providing for the registration of births and deaths and vital statistics.

Prohibiting the insurance of children under 15 years of age, under penalty of fine, imprisonment, and forfeiture of license to do business.

There is no other place in the world that has that law.

A splendid civil-service law. (Very complete.)

An exceptionally good divorce law, containing many provisions for the protection of women and children in their personal and property rights, and authorizing poor women to prosecute without cost; and compelling the husband to provide for care of children and pay alimony and counsel fees for wife during pendency of suit.

Establishment of free employment offices in cities.

Common carriers' liability act.

Coal-mine inspection law.

Providing for suitable burial places in every city and town for all veterans of the Civil and Spanish Wars.

Establishment of a State banner.

Providing for care and protection of abandoned animals.

Prohibiting the wearing of unauthorized emblems, badges, or medals.

Establishment of juvenile courts. (A very elaborate law that has been copied in many other States and commended by the President of the United States, and followed in foreign countries.)

A revision and reenactment of a complete law upon the subject of rape and indecent relations.

Providing for care and education of dependent and neglected children.

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Establishing detention houses and parental or truant schools for juvenile delinquents and providing for their care and education.

Preventing hazing.

Making August 1 Colorado Day, in commemoration of the admission of the State into the Union.

A local-option law providing for the creation of "antisaloon territory," under which some 50 cities and towns and 12 counties and the principal residence portions of large cities have abolished saloons.

Act providing for employment of prisoners eight hours a day and payment to wives or minor children of from 50 cents to $1 a day, if wife or children would otherwise become a public charge.

Providing for the construction of public highways by convict labor, with eight hours a day work and "good time" allowance.

Act defining who is the head of the family.

A modern inheritance-tax law.

Important amendments of county high-school law.

Amendments of State board nurse examiners law, providing for registration and qualifications of the occupation of nursing.

Amendments to State industrial school for girls.

Prohibiting quack doctors from advertising.

Requiring signature of wife to make valid assignment of wages, either due or future unearned wages.

Regulating wage brokers and loan sharks and prohibiting loans to minors.

Important amendment to laws of wills and estates, providing for economical administration of small estate and fixing widows' and orphans' allowances.

Establishment of industrial workshops for the blind.

There were no women members of that sixteenth general assembly, but the legislative committees of the women's clubs throughout the State were there early and often, and with the votes of the women of the State behind them they largely got what they asked for.

SESSION LAWS OF 1909.

An act creating a bureau of labor statistics.

Establishing a State home and training school for mental defectives.

Establishing a State board of immigration.

Creating the Colorado State Museum and appropriating $100,000 therefor.

Further protecting delinquent children and punishment for persons responsible, and defining duties of courts. (Mrs. Lafferty.)

A school teachers' pension bill.

Authorizing State board of examiners to act in conjunction with State board of education to examine applicants for State diplomas.

Creation of department of factory inspection, requiring three inspectors, one of whom must be a woman, with full authority to compel installation of safety appliances, and for proper ventilation and fire escapes, and sanitary appliances generally.

Validating the wills of married women.

Licensing and regulating hospitals and dispensaries of all kinds.

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Preventing oppression of persons held in custody and making it felony to resort to "third-degree" or "sweat-box" methods.

Providing "good-time" allowance for trusty prisoners.

Making it a felony to live on the earnings of a lewd woman.

Providing for physical examination at public expense of all school children as to eyes, ears, teeth, nose, throat, breathing capacity, and general health condition. (Mrs. Alma V. Lafferty, the only woman member of this legislature, and a woman physician, Dr. Mary E. Bates, are principally entitled to the credit of this splendid law.)

Appropriation of $5,000 for purchase and free distribution of antitoxin.

Authorizing consolidation of school districts for better schools, requiring school boards to furnish free transportation to pupils.

Additional stringent regulation of wage brokers and loans to laborers.

Giving a paroled convict money and clothing the same as a discharged man.

Making additional provisions for road building by convicts.

Donating some State lands for certain charitable and philanthropic institutions.

Defining taxpayer and preventing frauds in franchise elections.

SESSION LAWS OF 1910 (EXTRA SESSION).

Adoption of constitutional amendment providing for the initiative and referendum.

Adoption of the direct primary election law. The passage of these two bills was the consummation of a persistant fight that has been carried on in the State for this reform for 20 years.

The constitutional amendment was adopted by overwhelming vote at general election in fall of 1910, and is now in active operation.

SESSION LAWS OF 1911.

A codification of and complete law for the adoption of children.

Authorizing the placing of poor orphan children in charitable educational institutions and binding them out under proper supervision.

Child-labor law. The most wise and complete law in this country, fully regulating employment of and protection of children and prescribing hours and character of work they may do. Mrs. Louise U. Jones, a member of the house, introduced this bill, and she and Mrs. Harriet G. R. Wright, a former member, are entitled to great credit for securing its passage.

Creating truancy and probation officers and defining duties.

Act providing that all laws concerning delinquency shall, for the protection of girls, be held to include all girls under 18 years.

Anticoercion act, making it a misdemeanor for any employer to try to compel employees to resign or refrain from joining any organization or society.

Creating the department of factory inspection, greatly extending powers and benefits for protection of all workmen, male and female.

Amendment to "head-of-family" law, designating the wife as head of family if she "provided chief support for family."

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Authorizing the wife, without knowledge or consent of husband, to go and make entry on record homesteading the property where they live, so it can not be sold or encumbered without her consent.

Additional employers' liability law.

Miners' eight-hour law providing hours of labor and defining various kinds of occupations as injurious to health.

Providing that in labor disputes it shall be unlawful to issue false advertising to engage workmen under false statements to come in to take place of workmen on strikes.

Providing for supervision of lying-in hospitals and maternity homes and to prevent improper disposition of children.

Providing for teaching the adult blind.

Further regulations compelling a man to support his wife and children; making nonsupport an extraditable offense.

Drastic antiwhite-slave law, one to five years in penitentiary.

Providing for "good-time" allowance for prisoners in county jails.

Creating the office of State forester.

Authorizing all cities to acquire and maintain public parks outside of city limits. (Mrs. Lafferty.)

A law exempting growing timber from taxes, unless of commercial value.

Act establishing teachers' summer normal schools throughout the State.

Further regulating manner of holding school elections and preventing frauds. (Mrs. Kerwin.)

We think our schools are the best in the world, considering our State's resources and income; our appropriations to the schools are lavish, compared with older and richer States.

Act raising the qualifications of school-teachers.

The first State law in the United States admitting to the State soldiers and sailors' homes Confederate soldiers and sailors who are residents of Colorado.

Act creating and designing a State flag.

In this session, which was our last, and is the present eighteenth general assembly, there are four women—Mrs. Alma V. Lafferty, Mrs. Louise U. Jones, Mrs. Louise M. Kerwin, and Mrs. Agnes L. Riddle; the first is the chairman of the committee on education.

In addition to the above laws, there are many others not specifically mentioned, and there are a great many beneficial provisions in those laws that I can not take the time or space to give in detail. In reality, it would require fully one-third of the last 10 volumes of our Colorado session laws to fully describe the laws that have been enacted as a direct result of the influence and energy of the women of the State generally and the splendid and indefatigable efforts of the various women's organizations, especially the legislative committee of the Colorado Federation of Women's Clubs and the same committee of the Women's Club of Denver. Anyone can check up or verify my reference to these laws by examining the Colorado statutes or session laws in any large library.

I might mention many other general provisions like the establishment of a county visiting board in each county, composed of three men and three women, to examine all county institutions and supervise their sanitary and other conditions; requiring a woman

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physician in the insane asylum; requiring inspection of private eleemosynary institutions by a State board.

The women's influence makes it much easier to secure liberal appropriations for educational and humanitarian purposes.

Most of the visiting boards of the various institutions where people are involuntarily confined are composed partially of women, and they make those boards very efficient and prevent them from becoming political boards.

Women have been largely instrumental in bringing about the adoption of the commission form of government in Colorado Springs, Grand Junction, and other cities, and in requiring hundreds of splendid ordinances to be adopted by the various cities and towns and especially in compelling the enforcement of humane laws, sanitation, and general decency.

Women always take an active interest in the enactment and strict enforcement of good public health laws, and laws for the moral welfare of society. Whenever they have a chance to express their sentiments there is never any doubt as to the result. Every politician knows in advance what it will be, and that is the reason some of them loudly proclaim that woman suffrage is a failure. Equal suffrage is a failure with some kinds of people. A married woman's heart is always in her children and her home—the foundation of the Republic—and any measure affecting either is not a political question with her for a minute. There is only one side to it and that is the right side. A woman's vote is always a patriotic vote.

In fact, the most wise, scientific, and progressive laws of any State in the Union for the care and protection of children and women in their personal and property rights, for the humane treatment of the deliquent, dependent, and unfortunate classes, and for the enforcement of the laws and betterment of society are on the statute books of Colorado to-day.

I do not claim that the women are entitled to all of the credit for the enactment of all of these 150 laws. But the mothers and daughters of Colorado have, in my judgment, been the controlling influence that has brought about the enactment of most and have greatly assisted toward all of them. In fact, they have indirectly assisted in the passage of a great many other good laws, and those 150 are 150 good reasons for the women having had a voice in their enactment. I have simply mentioned those as I recollect it, that the women took the most active interest in and for the passage of which I think they are entitled to the main credit. The women are also entitled to the credit of bringing forward, through their various clubs and organizations, many other beneficial measures at every session of the legislature, but many of which have thus far failed to pass. They will, however, not stop until they pass them. It should be remembered that we in Colorado have all of the powerful influences that always work against all reform legislation that they have in all other States, and no reasonable person expects the women to be able to overcome all of those influences and accomplish everything in 18 years.

There may be some minor inaccuracies in reference to these laws, as I have been compelled to prepare this list rather hastily. I have relied upon my own judgment and personal recollection in making these selections. Possibly no two persons would select the same list, and the titles used are partially abbreviations of my own. But I

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was a member of the Colorado State Senate during 6 of those 10 sessions of our legislature besides three extra sessions, and was president pro tempore of the senate one term; I was a member of the judiciary committee for 12 years and chairman of the committee for 4 years, and personally helped to pass two-thirds of those laws, and besides twice as many more, so that I ought to be as well qualified as any man in the State to speak on the subject of the women's moral, intellectual, and political influence in causing good legislation; and I candidly believe that I am not putting it too strong or giving them more than their just due when I say that they are fairly entitled to much more commendation than the men for placing on our statute books the greatest number of the most humane and advanced laws that have been enacted by any State in this Union during the past 20 years.

I have made some examination of the laws of other States, and I challenge the entire array of antisuffragists in this country to compare the lawmaking record of Colorado with any male-suffrage State; and I defiantly assert, without the slightest fear of successful contradiction, that unless it be an equal-suffrage State, there is not another State in this Union that has during the past 10 sessions of her general assembly enacted one-half as much beneficial legislation for the protection and moral uplift of the human race.

The splendid record that the women of Colorado have made during the past 18 years is a credit to themselves, an honor to womanhood, and an inspiration to the cause of good government throughout the civilized world.

It is the feminine interest, in motherhood, in the child and in the welfare of the home that has compelled the passage of these laws. Any one of 50 of those laws would be a vindication of equal suffrage. Moreover, the Colorado women are entitled to very great credit which does not appear anywhere, for the vigilant exertion of their influence toward the prevention of bad legislation. A very large number of bad or unnecessary bills have been killed by the votes and suffrage influence of women, and the introduction of many more have been prevented by reason of the fear of that same influence.

The women members have all been exceptionally conscientious, industrious, and capable legislators. They devote their energies mostly to moral questions and matters affecting the home and the children, and the betterment of health and social conditions, including humane measures for the unfortunate of all classes.

The delegates of the Inter-Parliamentary Union, who some time ago visited the different parts of the United States for the purpose of studying American institutions, declared concerning our group of laws relating to child life in its various aspects of education, home, and labor, that "they are the sanest, most humane, most progressive, most scientific laws relating to the child to be found on any statute books in the world."

Woman suffrage in Colorado is and has been an unqualified benefit and universally recognized success. There is no thought or suggestion of its abandonment, the only possible difference of opinion among our citizens on the subject being as to the extent to which it has influenced legislation and the general administration of our public affairs. In the protection of the home and the family relations, of childhood and womanhood, in the guardianship of individual

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rights, in the protection of labor, in the matter of education, in the safeguarding of public health and morals, in the prevention of fraud, in the equal distribution of the burdens of government, in the discouragement and punishment of crime, and in the enforcement of humane laws, Colorado stands abreast with the most enlightened and progressive States of the Union.

Mr. Chairman, one of the best traits of human nature is the desire to advise others of the benefits we enjoy in this world and urge them to acquire the same valuable possessions. Scores of patriotic Coloradans, both men and women, have at various times for years traveled over this country from ocean to ocean and from the Lakes to the Gulf, at their own expense, without the slightest hope of reward, telling the people the value of political equality. Colorado being the most prominent and representative equal-suffrage State, has for 19 years been called the principal experimental station for woman suffrage, and the storm center of attack on the part of advocates and opponents. All the shafts of the antisuffragists on earth have been constantly hurled with fiendish desperation at our State. Hundreds of our public-spirited men and women have spent an incalculable amount of time, thought, energy, and money in answering the inquiries from all over the world, and in disproving the many vicious libels of the muck-raking magazines, yellow journals, and wanton slanders of mercenary sensational critics.

While all the old stereotyped stock of objections and obsolete arguments that have been doing valiant service for three generations have long since been exploded and ridiculed out of existence by the women themselves and by the actual experiences of every one of our six equal-suffrage States and by every country in the world where it has been tried—and while I do not at all assume that I can add anything new to what everyone who has studied the question already knows—nevertheless the subject at this time is being more generally discussed throughout the United States than ever before in our history; and as active campaigns for the adoption of equal-rights constitutional amendments are now in progress in the States of Oregon, Kansas, Wisconsin, Ohio, Michigan, and possibly some other States, and as I am receiving hundreds of letters and inquiries from those States and most of the others, I will, even at the risk of merely reiterating some of the conclusive answers that have been more eloquently given many a time before, give some of my personal observations and judgment upon a number of phases of the question. One of the first questions most often asked of me is:

DO THE WOMEN OF COLORADO VOTE?

Anyone can answer that question by simply looking at the election records and the census. Any claim that good women do not vote is squarely and conclusively contradicted by the election returns from all the equal-suffrage States of the Union. If you will compare the total population by this last census, or any census of the States that have equal suffrage, and then take the total vote of those States on the presidential, or on the governor, and compare that vote with the total vote of other States, you will see that the increased votes in the suffrage States is exactly in proportion to the total women population in those States; showing clearly

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that the women do vote in practically as large proportion according to their numbers as the men.

In Colorado there are from 35,000 to 40,000 more men than women. At the general fall election once every two years about 85 per cent of all the men and women vote. But owing to there being so many more men than women in the State, by actual count, the vote of the women in the State is on an average about 45 per cent of the entire vote. In some precincts it runs over 50 per cent. On the office which I hold of Congressman at Large, at the presidential election in 1908 I received 127,000 votes and my principal opponent received 121,000, while the Socialist and Prohibition votes amounted to about 15,000, and there were some scattering votes, making a total of about 265,000 votes. There is no State in the Union with the same population as Colorado that had within 125,000 as many votes as Colorado had, showing that there were at least that many women voted in our State, and we had relatively the same proportionate number in the last general State election in 1910 and will have more than that at the election this fall.

Every election, everywhere, there are some men who fail to vote because they have not registered, or haven't time, or don't care, or are sick, or the weather is bad, or have not informed themselves about the issues or candidates. The same reasons apply to a few women every election.

The Colorado Legislature, during the time I was a member, declared, by a practically unanimous vote of both the Senate and the House, that from the time their right to vote was recognized the women of Colorado have exercised the privilege of voting as generally as men. It is an undisputed fact that in every State in the country where the franchise has been extended to women the vote of the men has steadily risen. The vote of the men is much larger in all the equal-suffrage States of the Union than in most of those in which women are unenfranchised.

I am often asked if the best women in Colorado vote. As a matter of fact, it is the good women who vote in the largest numbers, proportionately. That is, in the better residence sections of every city and town and throughout the country the women vote is much larger, in proportion to the female population, than it is in the less prosperous and less desirable localities. There is no class of women in Colorado, no matter what their station in life may be, who do not vote. In the little city of Glenwood Springs, where I live, I do not know of there being a woman in the city or surrounding country who does not vote. The records of nearly every voting precinct in the State will substantiate what I say, and any person who makes the assertion that any appreciable per cent of the good women do not vote is unqualifiedly misrepresenting the facts. There are 125,000 as good and intelligent women as ever lived on this planet who vote at every general election in Colorado, and I am supremely proud to say that more than one-half of them have voted for me twice, and I am almost equally as proud in the belief that I retain the respect of all of those who voted against me. I represent in the House nearly five times as many voters as the other Members do, and I ought to be, and am, the proudest man in Congress of my constituency, especially the women.

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DO THE BAD WOMEN OF COLORADO VOTE?

It has been repeatedly stated by numerous governors of our State and many other public officials and prominent politicians that there was only from one-third to one-half of 1 per cent of the women of the State who are immoral or disreputable. From my observations of public affairs and experiences in politics in our State, extending over 30 years, and from my knowledge as district attorney, extending over the northwestern quarter of the State, and services as county attorney and city attorney for many years, and my experience in the State Senate and official consideration of all classes of our people, I am confident that less than one-half of 1 per cent of the women of the State are bad. In other words, there is not more than 1 immoral woman to every 200 good women. So that if all the immoral women voted, which they do not, and if only one-half of the good women voted, the preponderance of the good-women votes would be at least 100 to every immoral vote. Therefore, the utterly thoughtless, and in some cases willful, assertion about disreputable women outweighing the number of good women is not only a ridiculous bugaboo, but is a slander upon the women of the country. Throughout all of the Western States the good women outnumber the bad women fully 200 to 1. Moreover, the women of the half-world do not willingly vote at all. They are constantly changing their names and residences. They are a migratory class.

They do not register unless they are compelled to. They do not like to give any data concerning themselves or as to their real name or address. They shrink from publicity and prefer to remain unidentified. The policemen in charge of those parts of every city know substantially the number of them all the time. They are very largely under the power of the police and sheriff's office, and unless they compel them to vote they generally stay away. And even where they are forced to vote, not over one-fifth of them are qualified voters. So that their influence is negligible; in fact, it is actually infinitesimal. They are no menace whatever. Their numbers are not sufficient to amount to anything, and no one pays any attention to them. In fact, if it was known that they were voting for any particular ticket or candidate it would do that ticket or candidate 10 times more harm than good. Of all classes of women, prostitutes are the ones who least wish to be registered and vote.

Some people seem to have the queer impression that everybody in a city or town votes in the same place, and that the men and women have a general scramble to vote, and all kinds of unseemly conduct on election day. We of the West can not comprehend how any sensible people can get such ideas. No large crowds of people vote in one place. Every city and town and the country is divided into small election precincts, usually not over 300 voters in a precinct. Everyone must vote in his or her own precinct. There are no lewd women in the country or in the small towns, and in the large towns and all cities they are strictly confined to certain districts. They are not allowed in the residence portions of the city. In the city of Denver, with its population of 215,000, there are, as I recollect it, 211 election precincts, and all the scarlet women are confined to 3 or 4 precincts. So that 99 per cent of the women of the city never come in contact with or ever see them. The same applies generally

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over the State. In fully 19 out of every 20 precincts in the State there are no immoral women whatever. Unless she lives in one of those precincts including the "red-light" district, no respectable woman ever sees an immoral woman at an election in Colorado.

The assertion is made by some antisuffragists that by granting the right to vote to women there will be added to the vote of every criminal man the vote of a criminal woman is utterly without foundation. The vicious and criminal class among women is comparatively very small indeed. In the prisons of the United States, including all kinds of offenders, only 5 per cent of the prisoners are women. In other words, there are 20 criminal men to every criminal woman. In the Colorado State Penitentiary and Reformatory there are to-day nearly 900 men, and only about 20 women. Equal suffrage would increase the moral and law-abiding vote at least 200 to very immoral or criminal vote. This is a matter not of conjecture, but of statistics.

In the State of Idaho prostitutes are disfranchised entirely, and if they at any time should become a disturbing element or in the slightest affect the result of elections, that action would undoubtedly be promptly taken in the other States. One reason it has not, I apprehend, is because a great many bad men vote, and many so-called good men do not. Moreover, there is a kind of a humane sentiment that so long as they never take any part in elections and so few of them vote, that no one should wish to deny this most unfortunate class of human beings whatever protection a vote can give them; at least, so long as men of the same class are voters.

DO HUSBANDS AND WIVES VOTE ALIKE?

Among the various far-fetched and so-called grounds of opposition to woman suffrage that I have heard, and which is utterly without foundation, is the assertion that women would become as partisan or more so than men, and thereby merely double the party vote and accomplish no real good. Nothing could be further from the actual facts. Women, when they are enfranchised, in every State are, practically speaking, nonpartisan. They have not, like the men, inherited their politics from their fathers; and in States where the people are nearly evenly divided between the parties, practically half of the girls marry men of different politics from that of their fathers. So that in reality they start in comparatively nonpartisan, or, at least, very independent, and the great majority of them remain so. While possibly from 75 to 90 per cent of the married women vote mainly the general party ticket the same way that their husbands do, because their interests are the same, nevertheless, a small per cent of them always vote independently; and all of them are perfectly free to scratch their ticket, and a very, very large per cent of them do so. It is very seldom that either party elects a straight ticket. We nearly always have a mixture of officeholders. In other words, the women are nothing like as partisan as the men. They are very intelligent voters. They know the art of scratching thoroughly; they are exceedingly proficient in picking out fellows who are no good.

While they vote the head of the ticket quite largely as their husbands or brothers do, nevertheless they always feel perfectly at liberty, and they exercise the freedom of selecting good men on the opposite ticket, and almost invariably vote against bad men on what

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may be called their own party ticket. And that freedom of action never causes any friction whatever in the home. I have never in my life heard of a Colorado man having a quarrel or even assuming to complain or criticize his wife for exercising her choice and best judgment. In fact, some strong party men who feel that for party regularity they should not vote against anyone on their own ticket, at the same time they haven't the slightest objections to their wives exercising an intelligent independence which they know is for the general good, and which they feel it is not policy for them to exercise. In fact, every politician in the State has occasion to know that women can and will scratch their tickets. And when women have mastered, as they quickly do, the art of scratching; they have learned the most difficult feature of voting.

Women are not natural-born politicians like men are. They are not as crafty or ambitions politically as the men are. The natural result is that the men practically control politics, i. e., the party machinery of the State. At the same time the women read the papers. They talk among themselves. They learn quite fully about all the candidates and what they stand for. They discuss political issues and the candidates with the male members of the family, and they are thoroughly advised as to who's who. Women's interests can not, generally speaking, be roused very much by mere partisan strife. Women never become hysterical, and very seldom show much enthusiasm over a mere party nominee. Their interests center around questions affecting education, public cleanliness, public morals, civic beauty, charity and corrections, and public health, public libraries, the care of the children and the home, and the enforcement of human laws, and such subjects and matters as affect the welfare of the home and family. Men look after the business interests and financial questions, while the moral and humane questions appeal more to the women. In other words, men and women are different in their character and thoughts, and the influence and judgment of both is beneficial in civic and governmental affairs just the same as they are in well-regulated and orderly family relations. The husband is hustling for the almighty dollar and thinking about business matters, while the wife and mother is more directly concerned about the welfare of the children and the preservation of the home, the moral surroundings of the family, and his and her public actions are largely a reflection of the same man and woman sentiments that appear in an orderly conducted home.

A just man ought to, and every loyal son of Colorado does, accord to every other human being, even to his own wife, the same political rights which he demands for himself.

ARE WOMEN OFFICE SEEKERS?

No one need have any fear of the women monopolizing all the offices. There has never been any rush of women for offices. Giving a woman the right to vote does not change her feminine characteristics or her womanly nature in the slightest. The women as a class are never chronic or inveterate office seekers. In fact, there is not one out of 500 who ever thinks of being a candidiate for any office. They are not ambitious for office. They are never avaricious for power and influence like men are. Men are shrewder

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politicians and much more unscrupulous than women. In 9 cases out of 10 when a woman does seek the nomination for an office she is earnestly solicited to do so by many of her friends and acquaintances who recognize her exceptional qualifications for the position. Moreover, women scarcely ever strive for or want the more important positions that the men want. The men want the positions that pay the large salaries and require executive ability and other responsibilities, and that involve control of party machinery, patronage, and large affairs. As a rule women are never candidates for positions of that kind. They do not care to be political bosses, and 999 out of 1,000 instinctively shrink from allowing themselves to be made candidates for the highest or best positions.

There is no reason why a fair share of important offices should not be given to women, and they undoubtedly will be as time goes on and women become more qualified to fill them. But in the meantime the women are contented with the educational and charitable positions and minor places that require energy and much painstaking diligence and conscientious work, and which are compensated by smaller salaries. Furthermore, it should be remembered that all of the offices in any State or county or city is only an infinitesimal amount in number as compared with the entire population and there is not one-tenth as much reason for the claim that if women vote all of them would want to hold office than there is regarding the men. Neither of them can be elected without receiving the majority of all the votes, both male and female, and that vote will not be given to either unless the candidate is well fitted for the position.

There are many public spirited and well-to-do women who have more leisure than their husbands, and who take an active interest in charitable work and the welfare of the unfortunate; and they often serve on those official boards and do a world of good without any compensation whatever. But they are clothed with the authority that compels the officials in charge to carry out their recommendations, which they would not do if the women were not backed up by the ballot.

The voting age of women is 21 years, the same as men, and in Colorado there are only a comparatively small per cent of the women 21 years of age who are not married, and most of those who are not married are school-teachers, or stenographers, or deputies in offices, or occupying some clerical position, or clerking in stores. All of the women of Colorado are exceptionally intelligent and well informed on public affairs. The great majority of the married women have their family affairs to look after and they do not care to hold offices. But all of them are interested in who are elected to offices, and the way the public officials administer their offices.

OFFICES NOW HELD BY WOMEN IN COLORADO.

State superintendent of public instruction: Mrs. Helen M. Wixon.

Regent of State university: Miss Anna L. Wolcott, a sister of former United States Senator Edward O. Wolcott.

State penitentiary commissioner: Mrs. Helen L. Grenfel (formerly for six years State superintendent of public instruction).

President election's commission in city and county of Denver: Miss Ellis Meredith.

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Four members of the legislature: Mrs. Alma V. Lafferty, Mrs. Agnes L. Riddle, Mrs. Louise U. Jones, and Mrs. Louise M. Kerwin (the first named being chairman of the committee on education).

Judge of the county court of Eagle County: Mrs. Lydia B. Tague (probably the first instance in the history of the world where a woman has been the judge of an important court of record).

Auditor of city of Pueblo: Mrs. Carrie E. Truman.

Two members of the State board of charities and corrections: Mrs. Ella S. Williams and Dr. Elizabeth Cassidy.

President State civil service commission: Mrs. Sarah Platt Decker (formerly president of the General Federation of Women's Clubs).

Trustee State normal school: Mrs. Thalia A. Rhoads.

Trustee of State school for deaf and blind: Mrs. M. S. McDonald.

Factory inspector: Mrs. Katherine Williamson.

Four of the five members of both the boards of trustees of the State home for dependent and neglected children and industrial school for girls.

Mrs. Mary C. C. Bradford, the present superintendent of public instruction in the city and county of Denver, was a delegate to the last National Democratic Convention.

Mrs. Anna H. Pitzer, of Colorado Springs, the sister-in-law of Speaker Champ Clark, has just been elected a delegate to the National Democratic Convention that meets in Baltimore in June, 1912.

County superintendents of public instruction in 45 out of the 62 counties in the State.

In 5 or 6 counties the offices of either a county commissioner or the county clerk or county treasurer is held by a woman.

There are over 500 women members of school boards throughout the State.

The positions of postmaster are held by women in, I think, about 40 towns in the State.

The positions of clerk or treasurer in some 40 or 50 cities and towns are held by women, and a great many deputyships are held by women.

There are several women official court stenographers and clerks of courts.

Women have held office more extensively in Colorado than in any of the other suffrage States so far. Most of them have been married women or widows with grown or half-grown children.

The right of suffrage has quite largely increased the number of women chosen to such offices as were already open to them before. In Colorado women were eligible to the position of county superintendent of schools before their enfranchisement, but when they obtained the ballot the number of women elected to these positions showed an immediate and very large increase.

The duties of the offices which the women hold are performed in an efficient manner and above all things they are absolutely honest.

DOES EQUAL SUFFRAGE CAUSE DIVORCES?

There is not a single instance on record anywhere in any court in the State, and there never in 20 years has been a case in Colorado, where a divorce has been granted on account of political differences,

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or where the trouble between husband and wife arose from politics, or where either one ever even claimed that politics had anything to do with it. So that the charge made against our State as to divorces being in any manner connected with equal suffrage is as false as anything can be. Differences in religion between husbands and wives produce a thousand times more quarrels than differences in politics do, and yet no one would nowadays ever think of trying to compel a woman to choose her religion to suit her husband.

DO WOMEN LOSE ANY OF THEIR INFLUENCE OR CEASE TO BE AS MUCH RESPECTED?

The brazen claim that women will become unsexed or lose any of the respect of men is not only entirely without foundation, but utterly absurd. In the olden times men had the right to chastise their wives. They could take them out in the smokehouse and whip them. Have the men nowadays got any less respect for their wives because they can not lick them any more? Respect for woman is based upon her moral character, her intelligence, and her own self-respect. Women are not becoming less respected because they have been admitted to colleges and universities. Women are just as feminine in Colorado as any place on earth, and they are better wives because they are better informed and more companionable to their husbands. The enfranchisement of the wife has given another common interest to the household. It has had no tendency to create discord in the home. On the contrary, it has brought a comradeship in politics, something similar to that of religion, that used to be found in many families in the East.

There is nothing whatever degrading to a woman to quietly go down to the polls on election day once or twice a year and cast her vote along with her husband or brother or with women friends. There is not the slightest tendency whatever in Colorado among the men to omit the ordinary politeness due the women. In fact, I believe our women by their superior general intelligence and companionable charms, command and receive more courteous attention than in any other State. Under equal suffrage there is a much more chivalrous devotion and respect on the part of men, who look upon their sisters not as playthings nor as property, but as equal and full citizens. We are proud of our Colorado women. Nine hundred and ninety-nine out of a thousand of them conduct themselves in a ladylike and exemplary manner and we know that the highest consideration of justice and good government justifies and demands equal suffrage for women. I have little regard for a son who swells up and says that he is better than his mother. To-day a boy in his teens in a country or a State where women are given the right to vote, does not look upon his mother or his sister as belonging to the sex that must be kept within a prescribed sphere, but as a human being, clothed with the dignity of all those rights and powers which he hopes to enjoy within a few years.

The differences between men and women are natural; they are not the result of disfranchisement. The fact that all men have equal rights before the law does not wipe out the natural differences of character and temperament between man and man. Why should it wipe out the natural differences between men and women? Both

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men and women of the various different countries where woman suffrage is granted are much different in their looks and manners from each other; and yet it has had no perceptible effect toward unsexing or making women less womanly than they have always been.

To us people of the West it is utterly stupid for anyone to assume that the vote will lessen the present influence of women. The influence of any class of men, or any individual man, has never in the world been lessened because he had the power to vote. Such absurd and ancient falsehoods should no longer be tolerated or listened to as serious arguments.

DO WOMEN BECOME PARTISAN?

Women will vote for the right as they see it. They vote for men rather than party principles. That is one of the reasons that they are feared by certain politicians. I have heard it said great reformers never vote straight tickets, and women very seldom do. They are conservative reformers. Woman's adherence to party does not generally prevail as against her judgment on policies or candidates. They take the motto as a slogan, "within the party if we can, without it if we must."

There has never been a purely party measure that has been espoused by women in the Colorado Legislature. The women of all parties want the same things and have always worked for them together in perfect harmony. Men thoroughly understand that, in legislative matters, when they oppose the women they are opposing practically all of the women and the great independent vote of the State.

Men are stronger politically than women, and men dominate the politics of the State and cities. But man's domination is always influenced and often controlled by woman's natural and instinctive desire for honesty and better moral conditions in politics as in everything else. There is no such thing as a distinct woman's vote in the sense that there is in most cities an Italian vote or a Swede vote or a German vote.

Men lose sight of these important considerations in the scramble for partisan warfare for office, but women will not permit them to be obscured by anything.

HAVE COLORADO WOMEN LOST THEIR WOMANLINESS OR DETERIORATED MORALLY?

The objection that "it is unwomanly" has been made to every change in the status of woman from the time she ceased to be a beast of burden and we men decided to give her a soul and a seat at our dinner table to the present time. The days when ridicule and contempt were the reception accorded any attempt of the woman to enlarge her activities or broaden and enrich her life belong to another century. We have to-day urgent need for better fathers and wiser mothers. The feminist leaders of Europe and the United States are changing the attitude of the race toward one-half of its members.

To-day girls form 56 per cent of the pupils enrolled in our secondary schools and a large majority of those in all our high schools.

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The old days when women were compelled to keep silent are past. To-day in every field of human endeavor her voice is heard. By the legal establishment and recognizing of woman citizenship, the intellect and character and reciprocal estimation of both sexes has been raised. The possession of the ballot has given women an interest in general as well as political affairs, and this has naturally stimulated the men.

There is no real ground of fear for American marriages and the home. Nothing can break the bond between the sexes. Our own higher development will bring better conditions. We will have higher and happier marriages than ever before.

It is an absolute fallacy—the assertion that the activity of women in politics is in any sense whatever a movement of the sexes against each other; in reality it is the making of the sexes more companionable to each other and nearer on an equality.

Ex-Gov. Alva Adams, of Colorado, said before the House Judiciary Committee:

> I have known personally at least 10,000 women voters of Colorado, and I have never known one to be less a woman, or less a mother, or less a housekeeper, or less a heart keeper from the fact that she voted—not one. I have studied this question for 30 years. I did not go out there as this correspondent (the author of an article in the Outlook) went out there, with a lunch basket and a return ticket, and simply expect in 10 days to pass judgment upon this great experiment.

There is no place on this planet where women are more womanly, more modest, more charming, or more attentive to their home duties or better wives or mothers than they are in Colorado. In fact, we know that the broadened influence which the ballot has given them has very largely tended to enhance the very virtues and charms which distinguishes true womanhood.

DO WOMEN NEGLECT THEIR HOMES AND CHILDREN?

We have from childhood constantly heard the solemn assertion that the place for women is the home. I have never heard of anyone denying that platitude, and certainly the women of Colorado do not deny it. If there is anything in this world that a woman naturally wants it is a home. That is her natural place, and her main task in this world is home making. In fact, every married woman in this country is a self-appointed and ex-officio member of the Mothers' Home Protective League. But nowadays home is not contained within the four walls of an individual house. Home is merely the center of her sphere from which her influence should radiate. The home is largely the community, and the city or town full of people is the larger family of womankind. A woman can not merely stay in the home. Even to have a clean house it is necessary to have clean streets. To have clean streets it is necessary to elect a clean mayor. The same may be applied to all municipal officers and to school boards and health boards. In fact, all government today is in a certain sense merely housekeeping on a large scale. For some parts of this housekeeping the men may always remain better qualified than women. In other parts of it women will always be better qualified than men. But it takes both men and women to make a home. Mothers need the ballot to regulate the moral condi-

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tions under which their children must be brought up. The men's time is consumed in looking after industrial and commercial interests; but they need the cooperation and help of women in things governing home life. The community and the welfare of men themselves need the increased influence of women more than even the women need the ballot. Woman is largely responsible, not only for the cleanliness of her house and the wholesomeness of the food, but for the health and morals of the children and the conditions under which her children live; and if she is primarily held responsible for those conditions she should have something to say in the election of the officials and the making of the laws and ordinances by which those conditions are governed.

Equal suffrage in Colorado has made a new and powerful community of interests in the home, and it is a good thing for all members of the home and for the home itself. The responsibility of voting does not for a moment divert feminine attention from home duties. In fact, it accentuates woman's place in the home by giving her an important place in its protection.

But there is another serious and important consideration. There are upward of 7,000,000 women in the United States to-day who in reality have no home. Economic conditions have driven them into the factory, the mill, the shop, and the store. They have not left their homes of their own volition; they are not earning a livelihood in competition with the men of their own election. No one will ever assert that women voluntarily leave their homes to become wage earners. If some of them think the ballot would help them to better their conditions and enable them to have homes, are they to be blamed and ridiculed for entertaining that hope?

Ninety-nine per cent of the women of Colorado take no more time in politics than to attend probably two or three political meetings every two years and go to the polls on election day to cast their vote. The women of Colorado, generally speaking, do not spend 1 per cent of their time in political matters that they spend in social duties. It only takes a Colorado woman 10 or 15 minutes away from her home to cast a vote. But during those few minutes she is wielding the most tremendous power any woman ever had on this earth for the protection of her home and the homes of all others.

DOES IT INCREASE OR DIMINISH CORRUPTION IN POLITICS?

There is no man worthy of the name who will deny the statement that the influence of his mother and his wife and his sister and his daughter is good. Her influence is beneficial from her childhood to her grave. Is there a man who would have the hardihood to say that he feels his mother, his wife, his sister, or daughter would be more corrupt than he is, or less honest than he is, in exercising the elective franchise? When you grant equal suffrage to women, it is our mothers and wives and sisters and daughters who are going to vote. And if you assume that the influence of the ignorant or disreputable women is going to outweigh that of the good and the moral women of the country, you are either assuming that a majority of the women are ignorant or disreputable, or that the good women will not vote. I must emphatically deny both of those as-

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sumptions. The records conclusively show that good women do vote, and every decent citizen knows that the overwhelming majority of women are moral, are intelligent, and are thoughtful and reputable; and they are as solicitous about the moral welfare of the community and society as the men are; and, in fact, more so. I have never heard of a woman being prosecuted, or even seriously charged with the commission of a crime in regard to an election. I have heard it repeatedly stated, and I believe it is true, that the men are guilty of 99 per cent of all political corruption in Colorado.

There may possibly be a few very rare cases where a woman has been implicated in some political crookedness, but if there are any such cases that I have never heard of you will find that she was put up to it by some men who were trying to shield themselves behind her, and there will be 99 men more guilty than she. And when it comes to the exercising of the elective franchise, I am absolutely certain that for every woman who may have been justly chargeable with any wrongdoing there will be 99 men who are more guilty. We have sent a good many men to jail and some to the penitentiary; and, of course, some of them may sometimes attempt to hide behind the skirt of some woman of whom they have tried to make a stool-pigeon. But it is not true that women in any appreciable number whatever voluntarily enter into any kind of political fraud. They are intensely in favor of clean politics and honest elections. In fact, the good moral influence of women is splendidly demonstrated in politics. Generally speaking, throughout the entire State there has been a wonderful change in the places and manner of holding elections in Colorado. The meetings for the caucuses and the polling places are all in respectable places, and there is no rowdyism or disturbances whatever about the polls; and our political conventions, while they are intensely exciting and the interest runs high, because Coloradoans are wide awake and ambitious people, at the same time all public meetings are conducted in an orderly manner and no woman need hesitate to attend them either as a delegate or as a spectator.

No one claims that all women are honorable, and political power may occasionally uncover some moral weakness. But women are by far the most virtuous, most moral, and equally intelligent half of our population. A people will have a government just as good as, and no better than, they are.

One sure way of answering the question as to whether or not equal suffrage increases corruption in politics is to inquire as to who are the opponents of equal suffrage. Everyone who knows anything about woman suffrage, or about human nature, knows that the vicious and criminal vote is always cast solidly against equal rights for women. All those who thrive upon the violation of the law in any way, or upon corruption in politics, are the bitterest enemies of woman suffrage. Every gambler, every ballot-box stuffer, every political thug, every professional debaucher of the public morals, and every conceivable variety of crook will never cease exhausting his vocabulary cursing woman suffrage.

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DOES IT DOUBLE THE IGNORANT, OR FOREIGN, OR CRIMINAL VOTE?

As there are one-third more girls than boys attending the high schools of this country, the women are very rapidly becoming the more educated class. According to the last census, the illiterate men of this country very greatly outnumber the illiterate women. Therefore, extending the franchise to women will actually increase the proportion of intelligent voters. Moreover, extending the franchise to women will very largely increase the number of native-born voters, because there are in the United States over twelve times as many native-born women as foreign born. It is also a matter of record that a less proportion of the foreign born than the native born vote, and, as there are much fewer women than men immigrants, the enfranchisement of women will therefore doubly tend to minimize the influence of the foreign vote.

Another important feature is that the foreign women are usually much better in morals and intelligence than the foreign men to whom the ballot is already given.

According to the census of 1910, there are in the United States 7,500,000 foreign males and 5,800,000 foreign females—that is, 129 foreign males to every 100 females of the same class. A foreign vote is objectionable only so far as it is an ignorant vote. Intelligent foreigners, both men and women, are usually very acceptable citizens. We also notice another interesting feature in this connection in Colorado, and that is that, owing to their Old World ideas which the foreigners bring with them, the foreign women do not vote but very little indeed until they become quite thoroughly Americanized.

While on ordinary questions the foreign-woman vote would be very much like the native-woman vote, and would to quite a large degree duplicate the men's vote, that would not be true of special questions affecting women and children or the home, or matters of morality or questions of decency. This is one of the main points of the equal-suffrage question. And if women take the moral and humane side on questions affecting the welfare of the home and the good of society, it is of comparatively little importance whether or not on other questions their votes are duplicates. The taxes paid by women will very much more than meet the cost of printing and counting the extra ballots. Moreover, in a democracy like ours it is of the greatest importance and benefit to the whole people, both men and women, that all of the population interest themselves in all public questions. It has been repeatedly stated that a republic is sound at heart only when all of its adult members take an ardent interest in its affairs. Too many votes can not possibly be cast in a right cause in a democracy which lives and breathes by the public opinion of the men and women who compose it.

There is in this country no lack in our politics of business ability, executive talent, or shrewdness of any kind. But there is much danger of lack of conscience, character, and humanity. The business interests, which appeal more specially to men, are well looked after; but the moral and humanitarian interests, which appeal more specially to women, are too apt to be neglected.

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DO WOMEN READILY UNDERSTAND POLITICS?

The ludicrous assertion that women should not be allowed to vote because they do not know enough is only equaled in antiquity and absurdity by the little old, familiar verse:

> Mother, dear, may I go swim?
> Yes, my darling daughter;
> Go hang you clothes on a hickory limb,
> But don't go near the water.

The women of Seattle knew enough to fire a crooked mayor in about 15 minutes after they were given the ballot, and they knew enough again a few days ago to defeat him for reelection.

Women learn how to vote mighty quickly. They do not have to serve any apprenticeship to know the difference between decency and corruption, or between an honest man and a crook. She always knows the difference between good and bad government, and everything pertaining to educational matters or matters affecting the home; and all politicians will very soon learn that she is exceedingly alert and well informed upon all moral questions and questions affecting society and good government and clean candidates. She comprehends intuitively and instinctively. In fact, on questions of that kind she is much more interested than men, and the advice of every married woman is of great assistance to her husband. In reality, on all questions of that kind instead of a husband voting his wife, there is a great deal more likelihood of the wife voting the husband.

It is utterly absurd and idiotic to assert that women are not sufficiently intelligent to vote. And even if they had no more intelligence than the ignorant portions of the male population that vote, they have a great deal more honesty than the men have, and honesty is needed in politics of the present day even more than intelligence. They certainly have sufficient intelligence to decide whether they are properly governed and who they will be governed by.

THE DEVELOPING POWER OF RESPONSIBILITY.

Responsibility is one of the greatest instruments of education, both morally and intellectually, and woman never will become thoroughly versed in matters of politics until she is given the opportunity of studying them under the stimulus and check of responsibility.

When we consider her handicaps, not merely her natural handicaps, but the unnatural handicaps imposed upon her by civilization and sentiment; when we consider that for ages she has been discouraged from trying to do anything outside of the home, it is no wonder that she can not do all things as well as men. The wonder is that she does so many things as well as she does. Politically speaking, women are somewhat like uneducated children. They need to be given the aid and stimulus of sufficient imagination to know what the lack of education or of responsible citizenship means.

The great economic questions of to-day affect the women just as much as they do the men. Their interests are mutual and equal, and her enfranchisement has conclusively proven in the six Western

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States that the result is a more enlightened and better balanced citizenship and a truer democracy. It has been said that the more civilization advances the more the interests of men and women coincide and the more the suppression of their proper sphere has decreased.

One-fifth of all the women of this country have been compelled to go into the field of business and take positions formerly held by men and are actively earning their own support. The ballot is just as imperatively necessary to them as it is to the men. It is not only contrary to the principles of fair dealing to deny the women the right to vote, but this country needs the influence of her ballot, as will be conclusively shown by the result of her vote wherever it has been given to her. It seems to me infamous that women should be longer classed as political nonentities, the same as lunatics, Chinamen, criminals, and children. While there is a good reason for excluding all of those political nonentities excepting women, there is no good reason under heaven for excluding an intelligent woman from trying to better the conditions which affect her by the use of the ballot.

There is no argument or objection ever made against woman suffrage that has not been conclusively disproved by the facts in the States where it has been tried. She has improved and adorned the offices she has held and the laws she has helped to make and made better the politics of our State, as she does everything else she touches.

A woman who is self-centered and satisfied with the gratification of her appetite and vanities is not the highest ideal of our race and is not performing her highest duty to society or to humanity.

Back here in the East at the present time and in the discussion of the subject before the committee we hear some of the same old arguments that we heard in Colorado 20 years ago, when the campaign was on for woman suffrage in our State, and it is in the light of all these subsequent years that we look back at the absurd and ridiculous claims that were made at that time. Those objections have been demonstrated beyond question to have all been based upon prejudice, bias, and fictitious assumption.

There were in our State a number of women who, before they were enfranchised, did not want to vote. Since then nearly all of them have been faithfully performing their duty.

In all of the States in the Union where men have been compelled to yield up some of their so-called inalienable rights and divide some of their assumed natural sphere with women it has been discovered that women can really cast an intelligent ballot; that equality in a material sphere works out to the betterment of both and to the welfare of society; and that equal political right in those States is not any more listed as one of the absurdities.

EQUAL SUFFRAGE IS EDUCATING AND BROADENING.

I have heard it said that the greatest school of life is the ballot box. The present world movement for the enfranchisement of women shows that under the influence of advanced civilization the nations of the earth are becoming ready for universal suffrage and the conception of society which it implies. Feminism is a world

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movement. It is a part of the eternal forward march of the human race toward a genuine democracy. The whole history of the development of civilization is merely the story of broadening the channel of human liberty and opportunity. All over the world woman is doing and thinking more effectively than ever before.

An eminent author has stated that the most impressive and portentous development of our twentieth century social order is the woman problem. What is the race going to do with the woman? And what is the woman going to do with the race?

When you consider that women started at the zero point in this country a hundred years ago, with customs and her own sentiment against her, and that her admission to the colleges designed for men was contested more stubbornly than her original admission to the primary school had been, we must admit that her rise in the educational world is a brilliant feat. It certainly has forever disposed of the argument that she is unable.

Women's clubs are a wonderfully educational movement. It is within the memory of most of us when the American women first began to form themselves into clubs. At first they were merely little local literary organizations. Afterwards the matters affecting the welfare of the community were taken up for consideration; and then the women commenced forming State federations and afterwards national federations; and to-day the General Federation of Women's Clubs, working in conjunction with the International Council of Women, are doing a wonderfully beneficial and humane work for the amelioration of the conditions of women all over the world.

The women's organizations thoroughly realize that their cause for the betterment of humanity can be best advanced by giving the women the ballot. It is rapidly coming to a condition where the intelligent women of the world are making this appeal for equal rights on the ground of natural justice, on the ground of the highest expediency, and on the ground of the abstract right of all women to all possible means of education, and all civil rights and privileges which the men enjoy.

The change in the status of women has been so enormous during the past 50 years that to-day the opinion of educated women can no longer be ignored by educated men. Some one has said that the demands of woman suffrage is only one of the outward symbols of the stupendous revolution which has taken place during the last 50 years.

The women of Colorado are quite largely members of various clubs, and they wield an influence that is hardly conceivable by people who do not live in the State. They do not only have all the clubs there are in other States, but they also have political clubs; and there is a great deal of family discussion of public questions, which all has an unquestionable tendency to educate and broaden not only the mind of the wife, but the members of the family. Increased responsibility causes increased development and improvement, and increased development means intelligent action and patriotism.

I have often heard it said that one of the largest book stores in Denver sold more books on political economy, sociology, and kindred subjects within six months after women were enfranchised than during the entire previous 20 years. There is no question but what the

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possession of the right to vote creates an incentive to broader thoughts and greater interest in mankind and womankind for their mutual development.

THE SCHOOLS OF COLORADO.

Colorado spends more money per capita on her schools than any other State in the Union. There is no difference made in the salaries of teachers on account of sex. The children have a right to legal protection, and their mothers, who are their natural and best guardians, have a right to be given every means necessary for their protection.

There is not a child in Colorado but what has a seat in a school and is guarded by law compelling its parents to allow it to go to school. Does anyone believe for a moment that if the women had the power to make themselves felt in the administration of public affairs that there would be to-day 100,000 children on half-time in the schools of New York City and 25,000 without seats in schools in the city of Philadelphia, and an equal proportion in Chicago and many other large cities in this country? Does any sane person believe that if the women of this country had a vote that it would have taken 50 years to have passed the bill that just passed Congress creating a Federal bureau for the protection of children? The statistics will show that, practically speaking, there are no illiterate voters in the State of Colorado. A very large part of our population is American born. The foreign-born voters must be fully naturalized citizens and must have resided at least one year in our State; therefore neither men nor women are allowed to vote until they are fully identified and acquainted with our affairs and conditions.

Women have equal suffrage in school elections, I believe, in 30 States of the Union. Has anyone ever had the effrontery to assert that their influence has contaminated or had any evil effect upon school elections or made less effective the teaching of moral instruction in those States? There never was a moral law started anywhere in any State in this Republic but what it has had the support of a great majority of the women. Everyone knows that there is a much stronger propensity in women than in men toward the discharge of duties relating to child life. Their moral, educational, and health conditions depend largely upon woman for development, and she can not efficiently discharge these obligations without concerning herself as to the laws regulating such affairs. If she is given the ballot she then has the power to safeguard the children by giving to them the protection of important laws. It is said that in many States where women have a right to vote upon school elections that the women pay comparatively little attention to them. That may be true where there is no special interest or moral question involved and where the candidates are equally worthy. But where one candidate represents the moral and another the immoral side of questions affecting the welfare of children the women invariably take an active interest, and it is needless to say that they are always on the side of decency.

In the State of Colorado women have always had the right to vote in school elections; and it is true that they formerly paid compara-

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tively little attention to it, excepting, as I have stated, when some moral issue was at stake. But since they have been given the full right and responsibility of voting, tens of thousands of women vote at every election who never in former days thought of voting at a school election.

Another helpful and healthful feature is that prominent women—wives of men in well-to-do circumstances—who have no children, or whose children have grown up, are beginning more and more to recognize the obligations which they owe to others not so fortunate in personal protection; and large numbers of them spend a great deal of time and money in their efforts and successful determination of bettering the laws and conditions surrounding the children of the poor and helpless. A glance at the laws, which I have given, will convince anyone that the enfranchisement of women has exercised a beneficent influence upon the public schools, and toward bettering all school conditions, and for the general protection and welfare of the youth of our Commonwealth.

It has been stated that "Women the world over are reformers." That is unquestionably true; and it is equally true that women are progressive. But they are sanely and conservatively progressive. They are never fanatical or revolutionary. They are wisely discriminating and shrewd in their public actions. They interest themselves primarily in things of the home, things that make for purity, decency, and humanity. Movements that are more social than political. Matters that pertain to education, morals, civic beauty, charities and corrections, sanitation of school houses, charitable and reformatory institutions, and specially and above all, everything relating to children.

ELECTION-DAY CUSTOMS IN COLORADO.

One of the greatest outrages that has ever been perpetrated upon any class of public spirited and splendid citizens is the infamous misrepresentations sent out by tourists critics, and anonymous liars about election-day customs in Colorado; and to us the amazing part of it is, why the eastern press will swallow and publish such stuff without ever making the slightest effort to verify it; and in fact positively refuse to publish the truth about the actual facts in the suffrage States. The result is the general public have imbibed a large per cent of the lurid, slanderous, and mercenary libels concerning women suffrage. An election day in Colorado is in no way different from election day in States where only male suffrage obtains, excepting that there is an entire lack of drunkenness and disorder of every kind. Mrs. Helen L. Grenfell, in a public address, recently said that in 17 years of her actual experience she had never yet seen an intoxicated man, or heard an oath, or seen a discourteous action toward any woman at the polling places.

My wife goes to the polls with me and she, like all other women, always votes absolutely as she will, and she never wills to vote for a bad man, even if he is on my ticket. The slanders which we hear about women suffrage not only debase the people who utter them, but they are an impeachment of the decency and honesty of womanhood everywhere.

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In residence sections the polling place is usually at a private house. There is never the least disorder at the polls, no discourtesy or offense of any kind. It is not as trying and does not require as long as it does to go to a dry goods or grocery store. Women often sit beside the men as judges of elections, and nearly always two women act as clerks of election. Women attend political meetings quite generally and their presence always insures order and decorous procedure.

COLORADO IS THE TOP OF THE WORLD.

The Centennial State is a beacon light to all her sisters. We are supremely proud of the advancement that we have made, and we are frank in according to our women their just and full share in its accomplishment. I have never seen any serious disturbance at any political meeting in my State nor witnessed the slightest disorder at any polling place during the past 18 years. The women often take their babies to the polls in a gocart.

A man must give his exact age, while a woman only swears she is over 21 years old.

Husband and wife, father and daughter, brothers and sisters, or women in pairs or little groups go to the polls together as to any other meeting. No political party nor the officials of any party would think of locating a polling place anywhere where a woman would hesitate to go. The polls are as much protected as the post office or any other respectable place. Every man shows the utmost respect to every woman at the polls. There is no electioneering within 100 feet of the polls. Everything about the polling booth is courteous and orderly. Immoral women do not disturb or trouble good women any more at the polls than they do at a store or at a theater. Generally speaking, there are no saloons in the residence portions of any city or town, and I would say ninety-five precincts out of every hundred in the State have no saloons in them. and in ninety-nine out of every hundred precincts in the State there are no immoral women. Women are nothing like as venal as men naturally, and, in fact, there is never any attempt made to corrupt them. In fact, women give an atmosphere of decency and respectability to the voting places. In the elections they are treated with all due respect and make election day one of pleasure instead of one of riot and drunkenness.

Polling places are not only in proper and convenient buildings, but they are always orderly and clean. There is no smoking or swearing or unseemly conduct of any kind. The individual dignity of women is strengthened by the ballot. I never knew of a woman being even embarrassed at the polls or at any public meeting. While the women take as much interest in voting as do the men, they do not neglect their home duties by standing on the streets talking politics.

The difference between "influence" and "power" can readily be seen by comparing the results in Colorado and in other States where women do not vote. The women of our State have lost none of their influence, but they have in addition the power of the constituency, and the men of our mountain republic who are chivalrous enough to do the women justice are chivalrous enough still to keep them enthroned by their sides.

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RESULT OF EQUAL SUFFRAGE IN COLORADO.

I have lived in Colorado for 31 years and have taken an active part in public affairs during practically all of that time. I personally know the condition of politics before and since woman suffrage was granted; and while my judgment may not coincide with some others, I certainly have no reason for making any erroneous statements or expressing other than my candid judgment, and I can honestly and conscientiously say that I do not know of any bad effects whatever that woman suffrage has had in the State of Colorado, and I do know of enough good that they have accomplished to fill many volumes.

At the time it was adopted in Colorado people both feared and expected too much as a result of woman suffrage. In fact, the enthusiasts for every reform hope for more than they realize, while the opponents always fear the worst possible results. Woman suffrage has not brought about the millennium. It has not entirely changed human nature nor abolished dishonesty or crime. But, in the language of Colorado's grand old man, Senator Henry M. Teller—

> Woman suffrage has resulted in nothing that is objectionable and in much that is advantageous.

I believe I could prepare a list of at least a thousand beneficial results of equal suffrage in Colorado and an equal number of reasons why women should vote. I will not at all attempt to enumerate them, but, in addition to those I have already mentioned, will merely give in a very general and possibly somewhat disconnected way some of the results as I see them.

Equal suffrage has unquestionably compelled a very great improvement in the standing and moral character of the candidates nominated for office by all political parties.

It has equally improved the political conventions, assemblies, and public meetings and the management of all the different political campaigns previous to elections.

It has made much more orderly and better polling places and election-day customs have wonderfully improved.

It has greatly improved the interest of both men and women in the public affairs of the State and the municipalities.

It educates and broadens a woman's sphere of information, and makes her take a more intelligent interest in public affairs. It makes her more companionable, and consequently increases her intellectual standing, dignity, and influence.

It is a family bond and tie that binds the husband and wife together.

In 99 cases out of 100 the best and often the only political adviser a Colorado politician has is his wife. Any reasonable fair-minded person who has ever lived in Colorado six months knows that our women count for a great deal more, there is more attention paid to their wishes, and much greater weight given to their opinions and judgment than there is or ever was in any State where they are denied the power that equal suffrage gives them.

Some one has said that in our political conventions a few women are as good as a whole squad of police. Our women are well advised; their judgment is good. Their opinions are entitled to and nearly

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always receive due respect. It is true that more or less political chicanery always has, and probably always will, exist among some politicians in the State, not because of, but in spite of woman suffrage. Just the same as crime exists, not because of criminal laws, but in spite of them.

At this fall's election there will be nearly a million women who will vote for the next President of the United States, and their influence will determine which way will be cast the 37 electoral votes in the States of Colorado, California, Washington, Idaho, Utah, and Wyoming.

IT HAS TAKEN OUR SCHOOLS OUT OF POLITICS.

Equal suffrage has almost entirely taken our schools out of politics. One of our prominent educators recently said that there is more politics in school matters in any one block of any large city in this country than there is in the entire 104,000 square miles of Colorado soil.

The ballot is the woman's peaceable, orderly, and dignified assertion and effective execution of her judgment and will. All the old shopworn arguments against woman suffrage that I used to hear from my grandparents when I was a boy seem so ridiculous nowadays that they are a ludicrous curiosity to us people in Colorado. But those relics of feudalism seem to be still current back here in the East, in keeping up the ancient bugaboo against the best, the most intelligent, and most patriotic women on this planet asserting the God-given right of every human being of self-protection. And when the undisputable facts of many years of actual practical tests conclusively and overwhelmingly demonstrates the unqualified falsity of all those antiquated absurdities—demonstrate that they have become deliberate slanders on the women of this country—our opponents are now in desperation resorting to all kinds of misrepresentation as to the facts in our Western States. And what provokes us is that these slanderers very often, to use a slang expression, "get away" with their outrageous assertions because, at a distance of from two to three thousand miles away with no one to contradict them, their positive statements are partially accepted.

While the 150 good laws enacted through the efforts of our women speak many volumes of public records in their behalf, yet it is in the local city, town, and county politics that women exert the most direct influence. The nearer the home the greater the good; such is apparently the philosophy of her interest. Municipal government and school government at home are her special fort, and it would take many more volumes to enumerate the beneficial results of her moral and humane influence in municipal and educational affairs throughout the State.

The composite judgment of all the governors of the six equal-suffrage States is that women are more conscientious about the right of suffrage than men are. Women are much more careful about advising themselves concerning the personnel of the ticket than the men are; and she is fully capable of so marking her ticket as to express her individual choice, and that choice is always for the uplift of politics. No one need ever fear to trust to the women the welfare and good of the community, because their influence invari-

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ably tends toward the betterment of our moral, political, and civic environments. Equal suffrage has accomplished all that anyone could reasonably expect, and much more.

Women everywhere being confessedly the most moral, the most sober portion of the American people, it is inconceivable to us how anyone can dred their influence in public life.

I believe the securing of universal franchise for the women of this country would be the greatest step in advancement that civilization has made in centuries. There never has been a good law enacted in the State of Colorado in the past 19 years that the women have not actively worked for.

The women of Colorado are more in favor of law and order and social morality than the men. The women on the various boards have brought about many beneficial reforms in our State institutions. No honest man need ever have any fear of the results of woman suffrage. Every crook may well fear it, because self preservation is the first law of nature. With us, woman suffrage has long since ceased to be an experiment in any sense. It is well tried, thoroughly approved, and a permanent principle of our Government. The woman vote is a great and never-failing foundation or background of moral support. Some one has said it is in their dynamic vital force for good that woman suffrage has made its greatest contribution to the public welfare. The good effect of the infranchisement and the intelligent and public spirit of the women of Colorado is one of the greatest gains to the State and to themselves. Citizens, both men and women, with intelligence, public spirit, and morality that can withstand public temptations are what are most needed for the welfare of a community. Women are much more interested in public affairs than they used to be before they obtained the franchise, and our politicians now deal more earnestly with home and social questions. There is no place in the world where the women vote where they have suffered the slightest loss, either of dignity or domesticity.

Equal suffrage safeguards the home by scientific laws. But woman's influence has not only been felt in passing good laws, but very forcibly in the prevention of the passage of bad laws and in preventing the repeal or injurious amendment of many good laws. All women do not join in this work; in fact, a majority do not; but a large number do, and no large number of men, either organized or not, do join in such work. Individually, many men help.

Woman suffrage simply applies to the political sphere that principal of government that secures the best results in the domestic sphere, the mutual cooperation of men and women for the individual and general welfare. It is in the line of the general elevation of the race; it represents a higher civilization; it increases the power of those things that make for righteousness.

The proof of the pudding is in the eating. Women by the hundreds of thousands are voting in Colorado, Wyoming, Utah, Idaho, Washington, California, New Zealand, Australia, Finland, and Norway. Women have municipal suffrage throughout England, Scotland, Ireland, and many of the English colonies, and I believe she now has practically full equal rights in Sweden, Iceland, and Denmark. In some of these countries the women have been voting for generations; and in all of those countries and States put together

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the opponents of woman suffrage have never thus far been able to find anything detrimental to the cause of woman suffrage, or even find a corporal's guard of reputable men who would publicly say that it had produced any bad results. On the other hand, thousands of the most prominent and best men in all of those States and countries have repeatedly testified unqualifiedly to the good results of woman suffrage.

I will attempt, without giving the literal quotations, to give a synopsis of what hundreds of men and women have said in public speeches or put on record in addresses or articles in various magazines. They assert, in substance, that as a result of equal suffrage fewer politicians and more good citizens are elected to office; that women are the best citizens and can not be corrupted; that there is no bribery and no corruption of women's vote at any election; that no campaign orator in a stump speech ever dares to tell a story that is not clean; that no candidate dares cater to the immoral-woman vote; that no party dares nominate a candidate of known bad morals; and that every party in determining and selecting its candidates is compelled to and does select men against the character of whom the women can say nothing. They unite in saying that woman suffrage purifies the body politic; that the moral, educational, and humane legislation desired by women can be secured more easily if the women vote: that the ballot leads to fair treatment of women in public service; that it is the quickest, easiest, and most dignified and least conspicuous way of influencing public affairs; that the ballot is a great educator and that the women become more practical and more wise by using it; that instead of women's influence being lessened by the ballot, it is greatly increased; that in States where women vote there is far better enforcement of the laws which protect working girls; that they have never known an instance where the use of the ballot has caused a woman to lose her womanliness, or neglect her home or her family; that there is no just cause or basis for political inequality between men and women; and that, tested by actual experience, equal suffrage means better laws, better candidates, better government, and consequently a better society.

Gov. John F. Shafroth, of Colorado, says:

> Women's presence in politics has introduced an independent element which compels better nominations. It has been a great success in Colorado. Women will always be found upon the moral side of every question. It can not be that our mothers, sisters, and wives would have anything but an elevating influence on government.

Gov. Joseph M. Carey, of Wyoming, has issued a public statement within the last 30 days, in which he says:

> Woman [in Wyoming] exercises her right to vote and hold office as a matter of course. I am satisfied that women's influence in political matters has been good. I know it has been a great advantage to women, as girls in schools and in young womanhood make preparations to hold positions of responsibility in civil as well as in official life. Not 2 per cent of the voters would deprive woman of her rights in this State. Within the last few years I have been more strongly impressed that it is right that women should vote and hold office because of the fact that many women have come into very important and responsible positions.

Ex-Gov. Hunt, of Idaho, says:

> The woman vote has compelled not only State conventions but, more particularly, county conventions of both parties to select the cleanest and best material for public office.

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Judge Ben Lindsey, of Denver, says:

One of the greatest advantages of woman suffrage is the fear on the part of the machine politician to name men of immoral character. While many bad men have been elected in spite of woman suffrage, they have not been elected because of woman suffrage. If the women alone had a vote, it would result in a class of men in public office whose character for morality, honesty, and courage would be of a much higher order.

He further says:

We have in Colorado the most advanced laws of any State in the Union for the care and protection of the home and the children. These laws, in my opinion, would not exist at this time if it were not for the powerful influence of woman suffrage.

He also states that the juvenile court in the city of Denver would not be in existence, and that even if it was, he would not be its judge if it had not been for the woman vote. Both party organizations were against him.

It is universally conceded among all those who are in position to know that equal suffrage has raised new standards of public service, of political morality, and of official honesty.

Before the franchise was granted, women's property rights in Colorado had all been fairly well secured, and since that time the last discrimination has been removed; so that with respect to property, women are on a basis of perfect equality with men.

The splendid record of equal suffrage in Colorado for nearly 20 years is not only utterly ignored by the antisuffragists, but is brazenly denied. Defiantly disregarding all facts and figures, prejudiced scribblers have rushed roughshod over honor, honesty, and decency in a desperate effort to secure something for their muckraking magazines that could be distorted into a showing or pretense that equal suffrage has proven a failure in Colorado. Only the people of the State can fully appreciate the infamous extremes to which irresponsible falsity and scurrility have been carried by venal writers and speakers. The facts from which the true value of equal suffrage can be argued with mathematical certainty are easily obtainable. The ordinary honest man is not vicious in his opposition to equal suffrage. Some writer has said that with him it is more a matter of sex antagonism, or a survival of the feudal instinct. While there are undoubtedly many reputable men in Colorado and also quite a number of good women who are still opposed to woman suffrage, certainly no man or woman would ever dare advance the so-called arguments that are in vogue in the East. Everyone in our State knows that the Colorado women have grown in strength and efficiency without the loss of the essential womanliness or sacrifice of any valuable traits.

SAMPLE "ARGUMENTS" AGAINST EQUAL SUFFRAGE.

I have seen in print many times and heard reiterated a statement from one of our early-day judges, who was appointed, I believe, by Abraham Lincoln, and belongs to that generation; and also a statement of an estimable lady—I do not mean to infer that she belongs to a former generation—expressing opposition to woman suffrage. And those statements are in the hearings before the Judiciary Com-

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mittee now. I make no reference to either of them, but will call attention to a trait of human nature. We have all noticed small children, especially some of them who are raised wth a silver spoon, humored too much, and are badly spoiled and headstrong, who, if they can not always have things all their own way, will not play. Everybody can not be elected or even nominated to office and everybody can not dictate who shall be nominated or what officials shall do after they are elected.

Women, especially during the past few years, since they have become thoroughly well qualified, use their judgment very discriminately and wisely in the selection of candidates. The result is that the women's vote has been the means of defeating a great many men and some women who had political aspirations in our State; and while many defeated candidates and thwarted politicians have been good losers, some of them have not. And after every convention and every campaign there are a few people who are thoroughly convinced that woman suffrage is an ignominious failure, and the way they conclusively prove it is by admitting it in the eastern papers. Of course, that may be convincing to some people, but it hardly is to thinking people. And yet any disgruntled politician or disappointed candidate or woman, whose pride has been piqued, can give out a statement and it will be eagerly seized upon by the opposition press of the whole United States and heralded from one end of the country to the other. The only surprising thing to me about it is that in 19 years the antisuffragists never seem to have but once been able to get any statement of that kind, which was done a few years ago and published in a rabid antisuffragist periodical and is being repeated ever since and put in the hearings again, here, now.

It is a maxim in war and politics, and we sometimes follow it in the House of Representatives, namely, learn what your adversary wants and then do the other thing. Every vicious interest in the country would a thousand times rather continue to contend with women's "indirect influence" than try to cope with women vote.

A fellow that is no good can usually inveigle some good girl into marrying him, but he can not fool the entire female population, and when he runs for office they will quickly size him up and, in the language of the street, hand him what is coming to him.

PRODUCES BETTER NOMINATIONS.

Women always inquire about the character of candidates. Everyone knows that neither party loyalty nor any other influence can prevent the great majority of women from scratching their tickets for good nominees as against bad ones. The result is, there is not a State in the Union where the moral character of all the nominees of all leading parties and their standing as good citizens in the community is any higher, if it is as high, as it is in Colorado. It makes no difference how much electioneering there may be done in behalf of the party nominees, when a woman goes into the booth and pulls the curtain behind her and is left alone with the ballot containing 50 to 75 names, she remembers having gone over a sample of that ballot before she went in there, and she knows the men she is going to scratch and those she is going to vote for. And while she usually begins by writing the party name at the top of the ballot, the

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same as her husband would do, she does not stop there. She goes down the line with her pen, and when she stops she has voted what she believes is a good, clean ticket. I think one of the greatest benefits that has come to Colorado, and will unquestionably come to any State as the result of woman suffrage, is the fact that is universally recognized, and which no honest man who knows what he is talking about will deny, that woman suffrage has brought about a better class of nominations for all offices. They are always specially concerned about local offices. They always know, or know of, the candidates and vote with the greatest discrimination on county and city offices. The two parties being so nearly evenly divided in Colorado, it makes it imperatively necessary for both parties to nominate the best men they can possibly select in order to secure their election.

During a campaign in Colorado the women always quietly try to learn the character of the nominees on each ticket. The questions uppermost in their minds about a candidate are, Is he a good man? Is he good to his family? What are the influences behind him, and what are his business associates and moral surroundings? What kind of an official will he make?

Political meetings in Colorado are nearly as largely attended by women as by men. Considering their opportunity to go to meetings, the attendance of women is larger in proportion than the men. My wife is not only the best but in fact the only political advisor I ever had; and every successful public official in Colorado, if he tells the truth, would make this same confession.

Hon. Robert W. Speer, mayor of Denver, says:

Woman suffrage has been an important factor for morality and better government in this State.

One hundred mayors of the cities and towns of Colorado and the governor and nearly all the State officials issued a public statement sometime ago in which they officially asserted most positively that woman suffrage has placed better men in office than under the old masculine rule; that a man must now possess a good moral character to gain a position within the gift of the people; that anyone who wants good government ought to be in favor of women suffrage; and that our women take as much interest in elections as the men and exercise their right of citizenship with equal if not better intelligence than the men. As a good mother purifies the home, so her influence purifies society and politics.

Women are instinctively and invariably opposed to all evils that threaten the home or the Nation. Women's public life is under a microscope. The occasional faults or foibles of some of them are eagerly seized upon and exaggerated by adverse critics as fair examples of the character and conduct of the entire sex. A few feather-headed and erratic individuals may be found everywhere and in both sexes. But common sense will ultimately prevail and these biased and wanton criticisms will pass and the place thereof will know them no more forever.

COLORADO IS SATISFIED WITH EQUAL SUFFRAGE.

Light usually comes from the east, but in this case it is coming from the west. The logic of a progressive civilization leads inevitably to equal suffrage. Any assertion that equal suffrage does not work

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well where it has been tried is either based upon inexcusable ignorance or actual dishonesty. A proposition to revoke the right of equal suffrage in our State would be overwhelmingly defeated by the men themselves. I believe at least 85 or 90 per cent of the men and fully 95 per cent of the women would vote against it. In fact, there is no talk of repealing it. There is no discussion about the matter in that way, except from other States. We accept universal suffrage in Colorado as final. We would no more think of attempting to deprive the women of the right to vote than we would of surrendering our State charter and reverting to Territorial days. The principles of the equal rights of women is irrevocably determined. Woman suffrage will not make a human paradise of society in a day, or in 20 years. But it will and has helped marvelously to make human society more human and make of this country a true democracy, which is neither a class government nor a sex government, but a government of all the people, for all the people, and by all the people.

EQUAL SUFFRAGE IS SOON COMING IN EVERY CIVILIZED NATION.

It is the great question of the age. The world is loath to accept new ideas. Custom has always been a tyrant on the minds of men. Reforms have always been viewed with suspicion. A determined attitude of resistance to change may be classed almost with the instincts of the race. Some one has said that there has never been a new doctrine promulgated in all history that has not met with bitter resistance, and that it is a safe general proposition that any conduct widely at variance with an established custom will first be regarded as immoral, immodest, or at least unbecoming. These characteristics of the race constitute one of the basic reasons for the hostile attitude of society on the question of woman suffrage. It is custom and not reason that women have always had to face in their fight for the ballot. Sneers and misrepresentation will temporarily even overcome the command, "Do unto others as you would have others do unto you." But the greatest intellects of the human race have from the beginning of civilization to the present time acknowledged that naturally women are intellectually our equal and morally our superior and that they are entitled to all the rights that men enjoy. It has been the partisan, the prejudice, the bias and smaller minds that have always desperately opposed any advance of womenhood. I sometimes wonder if some of these individuals do not harbor a shrinking consciousness of not being equal to compete with, or willing to face the result of fair treatment to women. I can not resist having a lingering suspicion that the actions of some men are a tacit confession of fear of the risk to which it would subject their imagined superiority. Practically every broad-gauged statesman of the world has denied that any portion of the human species has a right to prescribe to any other portion its sphere, its education, or its rights. The sphere of every man and woman is that sphere which he or she can properly fill. No opportunity should ever in this country be closed to any human being who has the capacity to work therein. It is a disgrace to this country and to this enlightened century to longer disfranchise the patriotic and intelligent womanhood of this Republic. There never was a time in the history of the world when the mass of women was so intelligent, so

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right living and public spirited. The world has never enfranchised as patriotic a class of people as the American women are to-day. Patriotism is not confined to the male sex. Let us be big enough, broad minded enough, humane enough, and honest enough to treat the women of our country as fairly as they are being treated in China. Let us show to the world that we believe in the Declaration of Independence. Let us evolve our male oligarchy into a twentieth century democracy.

ANTIQUATED OBJECTIONS.

In referring to the arguments of the opposition to equal rights in this country, an eloquent Senator once said:

> We find only the same ancient footprints, the same things that satisfied men thousands of years ago and which never did satisfy any woman that we know of.

Wendell Phillips, in October, 1851, in his eloquent and celebrated lecture, answered all of the arguments against woman suffrage that I have ever heard of, and time has conclusively corroborated the correctness of what he said.

All the old objections have been swept into oblivion by modern experiences, and people who repeat them are mostly inexcusably ignorant or merely obstinate. Specious objections, slurs, and coarse laughter are no longer arguments. But unfortunately in no society has life ever been completely controlled by reason, but mainly by instinct, habits, and customs growing out of it. The race has suffered much through the tyranny of prejudice. The human family has been burdened during all the ages by common prejudice and much ignorance. Many people do not keep pace with the movement of the world about them.

St. Paul's command that women be in subjection, keep silent, and learn wisdom from their husbands has long since lost its authority. The old assertion that women should not vote because they haven't as much brains as the men was accepted as a conclusive argument for some time after the stone age, but people do not waste much time considering it now. In fact, the human race has developed too much at the present time to countenance dilettante speculation and nice theories about women's sphere and the female intellect and the duties of wife and mother, which are contrary to everyday common sense.

It is probably a waste of time to argue against prejudices that are unreasonable and can not be reasoned down. Some people will harbor their biased and prejudiced notions until they cross the great divide. The woman's success in all the fields in which she has been allowed to enter constitute a solid phalanx of thousands of undisputable facts, which demonstrate her capacity and merit, and we must appeal to the reasoning and thinking people to determine this question. Jane Addams and Mrs. Harriet Taylor Upton, and thousands of other noble women, who have for nearly a lifetime been working in this splendid fight for womanhood and humanity, are entitled to the encouragement of our commendation and active support, I glory in the fact that they have enough zeal and patriotism to trample under foot the sneers of some of the members of both sexes, and to carry on their magnificent work to victory.

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Some one has said in substance that theories are thin and unsubstantial air against the solid facts of women mingling with honor and profit in the various professions and industrial pursuits of life.

When I think of the 7,000,000 wage-earning women and girls in this country, I often wish I had the time to write a volume on equal suffrage. I would entitle it "Seven Million Reasons for the Enfranchisement of Women." In view of my actual experience and personal knowledge of the effect of woman suffrage, I have never yet seen or heard an argument against woman suffrage that had in it what seemed to me any justice or common sense. To us men of Colorado, people's prejudice against the woman's vote is incomprehensible. But when we think of it, we realize that it is due partially to lack of information of the evolution, the actual scheme of civilized life, and to the changed conditions of the present day, and also to a more or less inherited masculine repugnance to women having any public capacity or recognition whatever. While in one sense that sentiment of men may be called chivalrous, yet, in another sense it is extremely selfish. It is not chivalrous nor even honest to be willing to permit a woman for ever to do exactly the same labor as a man, and only receive from one-third to one-half of the pay for it.

Did you ever stop to think that none of the antisuffragists have ever come out to the States where we have equal suffrage and endeavored to show our women and men the error of their way? There is a very good reason why they never do. The archæan objections and mediæval arguments that they are still using in other parts of the country have been so conclusively discredited and shown by our actual experience to be ridiculous, that no one in our country would listen to them for a moment. We do not mean to be discourteous to anyone.

Everyone has a right to his or her own opinion, but when objections are diametrically opposed to what we know are the facts and are everyday common experiences we can not resist looking upon people who shut their eyes to these conditions as either lacking candor or as being mental relics of former generations. In future years we will look back and marvel at the supreme effrontery of the male population arrogating to themselves all the wisdom, honesty, and patriotism for so many generations after generations. Posterity will be amazed when it reads the history of the many centuries that women were disfranchised.

THE POWER OF THE BALLOT.

Samuel Gompers, president of the American Federation of Labor, says:

> I am for unqualified woman suffrage as a matter of human justice.

Jane Addams says that her strongest reason for wishing women to vote is because she has seen and deplored the unfortunate effect upon the character of women of the indirect method of persuasion and cajolery which their present voteless condition compels them to use in their rarely successful endeavor to secure the legislation of which they and their children are so sorely in need. For their own sake women must vote.

Ex-Gov. Charles S. Thomas, of Colorado, says:

> To the bread-winning portion of the female sex the ballot is a boon. She is a factor whose power must be respected. Like her brother, she must be reckoned with at the polls. Hence it is her buckler against industrial wrongs,

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her protection against the constant tendency to reduce her wages because of helplessness. If no other reason existed for conferring this right upon womankind, this, to the man of justice, should be all sufficient. Whoever accepts the doctrine of the Declaration of Independence must believe in the right of woman to vote.

Without quoting further extracts I will give a brief symposium of a collection of articles by various writers and a synopsis of many speeches that accord with my judgment and experience upon this subject.

Our Government is controlled by politicians and politicians are controlled by the ballot. While indirect influence has accomplished a great deal, nevertheless we know that it is a wholly inadequate substitute for the actual power of the ballot. Legislators and public officials everywhere give very little heed to any demands that are not backed by the ballot. When the women are enfranchised they not only have a voice in the making of the laws, but they are in a position to enforce them. They can make or unmake the officials who refuse to perform their duty. We in Colorado know that it is simply absurd to assert that women who vote can not get what they wish much more easier and in a far more dignified way than the women who do not vote.

We all remember that about a year ago an Italian woman, Angelino Napoletino, was sentenced to be hung in Canada for having killed her husband after much brutal treatment from him, including an attempt to compel her to become a white slave. Owing to the aroused public sentiment throughout the United States and Canada, her sentence was finally commuted to imprisonment for life.

In Leadville, Colo., within the past year, a woman was arrested for identically the same crime and under almost exactly the same circumstances. She was poor, ignorant, and friendless. In her cell she wondered to herself whether the authorities would hang her then or wait until her babe was born. When her case was called in court, the district attorney arose and said: "The public sentiment of Colorado will not condone me in prosecuting a woman under such circumstances"; and she went free. We have capital punishment in Colorado, only applicable, however, to the most heinous cases. But the conscience of the State would not permit the hanging or even the imprisonment of a woman for killing her husband in defending her own life and honor.

The first right the first woman on this earth started to secure was the right to know, and she has been working for thousands of years for the right to learn and work, and she is now seeking the right to control her own property, her own mind, and her own welfare. Her long years of struggle for equal rights is now culminating in a world-wide demand for equal suffrage for women, because there are no rights either natural, social, or individual that can be permanently maintained either politically or in the courts at law save by the possession of political rights.

The good women of Massachusetts, in 1902, after earnestly working for 55 years, succeeded in getting a law making mothers equally with the fathers the guardians of their minor children. The women of Colorado passed that bill in less than 55 days after the convening of the first legislature after they were given the right of franchise. After a half century of earnest effort by "indirect influence" only 15 out of the 48 States have granted that right to the mothers. In

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33 States a father can to-day give away his children, even an unborn babe, and the mother is helpless.

The good women of Illinois appealed to their legislature for nine successive years before they succeeded in securing a State industrial school for girls. Senate bill No. 1, in the first legislature that met in Colorado after the enfranchisement of women, provided for the establishment of a home for dependent children. The women shot that bill through the legislature, the home was built, and in less than six months the State was mothering her motherless children.

Women are not only learning what their natural legal rights are, but they are learning that the only way to secure them is by the proper, frank, and direct way, not by trying to influence somebody else.

They are learning that citizenship is a pearl of great price, and, like other pearls, it must be worn and come in contact with human lives if it retains its luster.

The voting women of the Mountain States have with splendid patriotism to the country and with a loyalty to their sex that is worthy of the highest commendation throughout this land pledged themselves to never cease working for the adoption of woman suffrage until every woman from sea to sea and from the Gulf to Canada enjoys the blessings of political equality in the same degree that they do. They refuse to be content with their own freedom so long as their sisters are in bondage. They look forward confidently to the day when all women "shall be enthroned upon justice and equal opportunity and shall taste the fruits of that genuine fraternity which gives to all humanity the power of self-expression."

There is no foundation, in fact, whatever for the assertion that women can not compel the enforcement of the laws. No trouble of this kind has resulted from equal suffrage in practice. The laws are fully as well enforced in the enfranchised States as in adjoining States where women have no vote. Where women have the full ballot they have often defeated bad candidates for higher offices, but no riotous uprising has ever followed. In fact, the suggestion that a law which was supported by a majority of the women and duly enacted would not be enforced is a libel on American manhood.

The International Congress on Child Welfare and the National Congress of Mothers meet here every year. Those noble women are doing a splendid philanthropic and humanitarian work for the proper care and civic uplift of our youth. But just think what a power for good to our race all those good ladies would be if they had the right of citizenship. Their work would be one hundred times as efficient. If they and their sisters could vote, you can stake your life on the proposition that the politicians from Maine to California would sit up and take notice. We would have at least one woman juvenile court judge in every large city, and thousands of other reforms that would be for the betterment of the race. They would get their laws enacted by Congress and by every State in this Union, and they would get them now, not after most of these noble women have gone with a discouraged heart to their final reward.

In spite of politicians and political machines, organized bodies of women are constantly securing measures for the aleviation of wrongs and for the bettering of social conditions. Women have just as much at stake in the Government as men have, and they share equally

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in the benefits of a good and suffer equally the evil consequence of bad government. They feel as never before their responsibility concerning sanitation of cities, conditions of streets, schools, labor, wages, charities, reforms, and every question which relates to the welfare of the people; and they realize as never before how powerless they are without the ballot.

The right to vote commands recognition from all political parties and representatives, which nonvoters never receive.

We will never obtain our highest ideals of citizenship until free men and free women work together for the establishment of the highest human justice.

EQUAL SUFFRAGE PROTECTS LABORING WOMEN.

The status of women in this country has been and is now passing through a marvelous transformation. It is only a few years since it would have been looked upon as almost disreputable for a woman to work in a store or as a clerk in an office. That situation has entirely changed. If our social conditions could be perfectly ideal; if every girl when she reaches the age of discretion could be happily married to some man who would support her as he should and properly care for the family, the question of woman suffrage would be of much less concern. But to-day one-fifth of all the women of this country are compelled to earn their own living by their daily labor. Nearly 7,000,000 women are wage earners to-day, and the number is constantly increasing. Woman suffrage is not responsible for bringing about that condition. It is the economic change that is going on in the life of this Republic. If the right to vote was taken away from the laboring men of this country to-morrow, they would within one year, and in many places within one week, be reduced to a condition of practical slavery; and it is little less than inhuman to compel the 7,000,000 women to work in this country under conditions that would be absolutely intolerable for men. I look upon this as a matter of common humanity. No class of human beings can compel, or will ever secure fair treatment either in the courts or any other place unless that class is given the power of the ballot. If the right of franchise is as important almost as life and death to men, why is it not equally important to women? If the laboring man's vote can enforce fair treatment, labor legislation, and decent rules, at least comparatively so, why would not it produce the same effect in the hands of women? It certainly appears to me that every fair-minded man in this country, every man who is in favor of a square deal and of fair treatment to his fellowman, and especially to the womanhood of the country, ought to heartily join in giving the women this right. If any of them do not want to exercise it, they need not do so. They are like children who do not want to go to school. They usually grow up to appreciate the importance of it, and these good ladies will reach that stage some day. There will be enough of them who do need the ballot and will honestly exercise it to creditably represent all of them.

Every adult who is not an idiot or a criminal is entitled to representation in his own government affairs.

Woman suffrage is a necessity, both from a political and economical standpoint. A nation can not long exist that tolerates conditions

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that discourage marriage and prevent the possibility of motherhood.

The low pay and hard conditions of working women are largely due to their disfranchisement. With the ballot the women who do exactly the same work as the men will enforce the same pay. She can not possibly protect her interests as a wage earner without the ballot. I appeal for the 7,000,000 working women of this country. I can not resist feeling that it is a crime against humanity to deprive them of the right to protect themselves, which they can only do by the ballot. She is forced to compete in the labor market with those who have full political rights, while she herself is a political non-entity. Extend the horizon of her life and the protection of her purity and the conservation of her virtue and her motherhood. All that the ballot is to man it is and will be that and even more to women. Work should be paid for not according to the sex of the worker but on the merits of the work. Where a woman is equally well equipped to do a certain kind of work, and does do it equally as well, she is entitled to the same rate of pay as a man. But she doesn't get it, because she can not compel it.

Women claim the ballot as their inherent right, and they use it in the line of their duty as good citizens for the enforcement of the laws and the protection of society. Frances Willard once said that the best thing in the nineteenth century was woman's discovery of herself. One of the best things thus far in the twentieth century is woman's discovery of her duty to help others.

It is not a logical or any reason to refuse the franchise to all women because some women do not recognize the duty of voting. The women who so much need the right to vote do not desire to compel their sisters to vote. If the good ladies who oppose woman suffrage do not desire to perform the duty they owe to society of expressing their opinion by marking a ballot, they need not do so. But I deny that they have any right to try to prevent their sisters from securing the right to protect themselves and perform their obligations to humanity.

The most important subject, in fact, the greatest problem, before humanity to-day is—

THE CONSERVATION OF THE HUMAN RACE.

The conservation of motherhood and childhood. Where married women are forced to work in factories the birth rate decreases and the death rate of children increases alarmingly. Many kinds of work as now performed by women is injurious, and the demand for more protective legislation for women workers is constantly increasing. The handicap against woman is too great for her to bear. Women are now compelled to work under conditions that ruin her nervous system, undermines her strength, and unfits her for the duties of marriage and motherhood. The result is it discourages marriage, which is unquestionably an alarming evil. Women are compelled to undercut wages.

No man is free unless he has the fullest rights of citizenship, independent of all limitations. The right to vote is the highest test of liberty.

If men were superhuman the interests of women might be sufficiently represented by men, and the horrors of the sweatshops would be largely if not entirely removed.

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The late Hon. Carroll D. Wright, while still National Commissioner of Labor, said:

> The lack of direct political influence constitutes a powerful reason why women's wages have been kept at a minimum.

Thousands of women are to-day working at starvation wages, and the conditions of women's work are getting steadily worse instead of better as the number of women workers increases. Anyone who will study the recent investigations of women's work and wages will painfully realize that working women, even in the United States, where there are fewer women and more favorable conditions for women workers than anywhere else in the world, except Australia, need all the help the ballot will give them. In fact, women even more than man need the ballot to protect their special interests and right to earn a living.

The experience of all history goes to prove that a disfranchised class can not protect its liberty. It is not a theory, but a condition that confronts us. These millions of women must be permitted to earn their living in an honorable way. To my mind one of the strongest reasons for granting women the right of suffrage is the imperative necessity of her having that power to protect herself in the conditions under which she must work. The need of work is so great and the number of women that must be self-supporting is so large that the employers have been at liberty to dictate their own terms to the workers without regard to whether the wage offered is a living wage. If it is right that we should regulate child labor it is equally right that we should regulate the conditions surrounding women in industry.

While I have never given the subject any extended study, yet my impression is that there ought to be established in this country a minimum wage commission to consider this subject. They have provisions of that kind in other countries and they have apparently worked with great success. It would seem as though the soul of any fair-minded person would be moved to see the virtue of unhappy women exposed to the terrible kind of modern commercial life and subjected by hopeless poverty to the heartless demands of vice. With the ballot the economic condition of women will advance and the chance to live clean and happy lives will be greatly improved. The granting of the ballot to women is along the line of higher development of our humanity. To-day women are now engaged in 300 different kinds of industries. To me that is—

300 GOOD REASONS FOR EQUAL SUFFRAGE.

I am not willing to longer sacrifice the virtue and health of the girlhood of this country upon the altar of a groundless prejudice. Women are ground down by the competition of their sisters to the very point of starvation. To my mind, the political enfranchisement of women is absolutely essential to the economic independence of the working classes, and it has become the world-wide issue of immediate and vital importance to the very existence of democracy.

The wage-earning woman or girl to-day has absolutely no chance beside her brother, simply because she is not a recognized citizen by virtue of the ballot. I coincide with the humane belief that it is brutal and inhuman to force a woman to compete with those who have

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full political rights while she herself is a political nonenity. All working men and all men of every class regard the ballot as their greatest protection against the oppression and injustice of other men. It is only necessary to ask ourselves what would be the fate of any political party whose platform contained a plank depriving laboring men of the right to vote. No woman on this earth can be engaged in a higher or nobler or more humane work than in making an earnest and persistent fight for the right of her weaker and less fortunate sisters, who, through poverty and oppression and incessant toil, have no power to fight for themselves. It has always seemed to me to be a strange trait of human nature that anyone should strive so hard to prevent others from acquiring rights which they so much need, because, forsooth, he does not need them. Because I am well fed and well clothed is no reason why I should try to prevent others from enjoying the same.

ADDITIONAL "ARGUMENTS" AGAINST EQUAL SUFFRAGE.

I observe that one of the ladies who acts as the official representative of an organization opposed to woman suffrage has just presented an argument to the Judiciary Committee against my pending constitutional amendment for equal suffrage. I will only refer as a sample to one of the grounds of objections which she presents, viz, "Because the suffrage is not a question of a right, or of justice, but of policy and expediency; and if there is no question of right or justice, there is no cause for woman suffrage." I had supposed that people had ceased to dispute—

THE ABSTRACT RIGHT OF EQUAL SUFFRAGE.

Natural justice is all on the side of women. If all people should take part in government; if women are people; if mankind are and of right ought to be free and equal, in the sense that they are equally "entitled to life, liberty, and the pursuit of happiness"; if all human beings are equally entitled to protection before the law; if, as Lincoln said, "No man is good enough to govern another without that other man's consent"; if "taxation without representation is tyranny"; if our Government is founded upon the doctrine of "equal rights to all and special privileges to none"; in other words, if we believe in the principles enunciated in the Declaration of Independence, surely we can not admit that any class of human beings has a right to the exclusive usurpation of these powers and rights, or that these universal principles of eternal right can be justly denied to any intelligent human being merely on account of sex.

President Lincoln also said that "This Nation can not exist half slave and half free." In a republic the ballot is the citizen's right, and in the United States women are arbitrarily deprived of this right. I look upon the recognition of women as citizens as being an act of simple justice; and I can not appreciate either the logic, common sense, or honesty of refusing to grant an act of simple justice to women merely because they are women. The present civilization will not much longer permit the physically stronger half of the human race to ignore the plain rights of the physically weaker half. The reasons why women should vote are the same as why men should vote, the same as the reasons for having a republic rather than a

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monarchy. A noted speaker has eloquently said that we can not play fast and loose with the eternal principles of justice without being sooner or later caught in the net of our own weaving. Women are one-half of the human race. Why should they be born, educated, married, divorced, and buried under laws made exclusively by men? Why should laws regulating women's labor, women's taxation, women's guardianship of their own children, women's power of will, be enacted without the consultation of women? Why should women and their children eat impure food, drink poisoned water, catch diseases, and live under immoral and degrading conditions over which they have no control?

The natural right of a woman to vote is just as clear as that of a man, and rests upon exactly the same ground. The woman's-rights movement is a feminist evolution. Women should vote because they are women. To have a voice in choosing those by whom one is governed is a means of self-protection due to everyone. Democracy is not a matter of sex, any more than it is a matter of race. The disfranchisement of women is a brutal usurpation of power, a relic of primitive barbarity when might made right, which has become unworthy of a chivalrous modern manhood.

Another assertion made by the opponents is a denial that—

WOMEN WANT EQUAL SUFFRAGE.

At the time we submitted the question of equal suffrage in Colorado there were a great many women—in fact, a large per cent of the women—who were indifferent. The large number of newspapers and men and women who have been engaged for a half century in ridiculing, cartooning, and slurring the advocates of woman suffrage has necessarily had an important effect upon opinions of many women. But, notwithstanding the terrific power of ridicule and the effect of a great many so-called arguments and objections that we in Colorado know are absolutely ridiculous, the cause of woman suffrage is making the most marvelous progress of any reform movement in this Nation. It has made more progress throughout this country during the past 5 years than it made in the 50 years preceding that, in the general awakening of the country to the justice, and in fact, the necessity of giving the women of this country the right to participate in the making and enforcing of our laws, and in determining who their public officials shall be. As intelligent and thinking human beings, as an equal half of this human race, with the same patriotic desires for good government, with really more at stake and a greater interest in the welfare of society than the male half of humanity has, it is inconceivable to me and utterly illogical and contrary to nature to assume that the women are unwilling to be granted the permission, if they desire to exercise it, of having a voice in the civic affairs of our common country.

The best and most conclusive answer is that in every State where women have been given the ballot they actually do vote at every general election in as large a proportion to their numbers as the men. That ought to be sufficient answer, no matter what they may have thought before the right was acknowledged. Equal suffrage can no more be prevented from extending to every State in this Union than you can stop the progress of humanity or prevent the ultimate survival of the principles of right and justice.

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Ordinarily the light comes from the East, but in the matter of the enfranchisement of the best half of humanity, I am proud to say, the light is coming from the West. Eastward the woman's star of empire takes its way!

There is no more possibility of the right of equal suffrage being taken from the women of Colorado or any other State that has tried it than there is of returning to Negro slavery in this country. One is just exactly as likely as the other. The human race is not going backward. No member of our legislature could ever even get a bill printed, much less considered, that would attempt to take this right away from women, and any assertions to the contrary are utterly and totally without foundation.

MORMON INFLUENCE IN COLORADO.

About the most infamous misrepresentation that I have seen in the press and heard, and which is being heralded broadcast and reiterated all over three-fourths of the United States as an argument against equal suffrage, is the statement that the Mormons hold the balance of power and control the politics of Colorado.

I venture the assertion that there is not one individual out of the 800,000 population of Colorado who is old enough to know anything but what will brand that statement as a malicious falsehood.

I have understood that there is one small settlement in southwestern Colorado that is composed principally of Mormons. They are good citizens and do not take any interest whatever that I ever heard of in the politics of the State, or even in that county. Of course there may be a few Mormons scattered over the State, but actually I am not aware that I am personally acquainted with a Mormon in the State, and my home county joins the State of Utah, and I have known the people of western Colorado for 30 years, and as well probably as any other man. I have never in my life heard, until I came east, that there was any such thing as a Mormon vote in Colorado, or that they cut any figure whatever in politics. I only mention it to show the absurdity and utterly unwarranted viciousness of this attack against woman suffrage by appealing to the public resentment and hostility against polygamy.

In the State of Utah the Mormons are and always have been in an overwhelming majority. They control the politics, not by reason of equal suffrage—that has nothing to do with it—but because they are in the majority. The chances are that if an overwhelming majority of the people of any State were Methodists, or Christian Scientists, or Catholic, or Baptist, or any other particular denomination or nationality that that denomination or nationality having an undisputed majority of all the votes would naturally control the politics and the offices.

But it is outrageous to try to invoke the public enmity against polygamy as an argument against equal suffrage. If there is anything under heaven that would prevent polygamy from spreading, it would be the granting of equal suffrage. No denomination or nationality or individual class ever has or ever will dominate the politics of Colorado.

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WOMEN AND PROHIBITION.

The opponents of equal suffrage make another charge against Colorado that is almost as unfair as the charge of Mormonism in our politics. Wherever the prohibition sentiment is strong they loudly proclaim that "Colorado is a black spot on the prohibition map." I can not say as to whether Colorado is painted black on anybody's map, but I do know that the women of Colorado are entitled to the thanks and appreciation and moral support of the temperance people throughout this Nation.

In considering the condition of any people or State or city one must look to their surrounding circumstances and local conditions; Colorado is popularly known as "The summer Playground of the Nation." It is one of the greatest resort places in the world and is becoming more and more of a tourist resort State ever year. Owing to the cool nights and delightful summer climate hundreds of thousands of people from all over the world come there every year, and especially in the summer time. A very large per cent of them are people who are in the habit of using liquor in moderate quantities, and while the liquor trade is only a comparatively small item, yet the revenue derived from the tourists business every year is an enormous sum. In fact, Colorado's scenery and climate is one of our chief assets and will be worth billions of dollars to her in the future. Those tourists expect to be able to use liquor in a moderate way the same as they do in every resort place throughout the world. I think that is one reason why the public sentiment of the State does not favor absolute prohibition in Colorado, and possibly it may not do so for many years to come. But when we consider the conditions in Colorado now and what they were before equal suffrage was adopted, we have an opportunity of seeing the very great beneficial effect of the ballot in the hands of the women. At the time woman suffrage was adopted, as I recall it, there were only three towns in the State that prohibited the sale of liquor, and there was practically no other dry territory in the State. Saloons generally were open all night and Sundays and gambling of every kind was wide open; not in every place, but quite generally throughout the State, and there was comparatively little restriction upon the sporting fraternity.

Colorado was, and in fact still is, a frontier State. It is an old saying that timid people never started West, and the weak died on the way. Colorado's population has always been liberal in their views, and the result was that the public sentiment and the conditions that the women had to cope with were a great deal different from what they are in the older States. But after a long fight the women succeeded in compelling the passage of a good local option law, and the public sentiment of the State to-day approves of it. Under the operation of that law some 10 or 12 counties are now entirely dry; about 50 of the cities and towns are dry, and practically all the residence portions of all the cities and towns throughout the State are dry. There is no open and very little private gambling. The saloons are closed on Sunday and at 12 o'clock at night. We have high license and strict legislation, and the conduct and management of the saloons are orderly. In fact the great majority of the saloon people themselves are earnest in their efforts to comply with the law.

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Of course, there is a perpetual contention between the saloon and the antisaloon sentiment. But no one can justly denounce women suffrage because it has not made Colorado a prohibition State.

The women and the Antisaloon League of Colorado are entitled to the greatest credit for largely bringing about this moral and businesslike regulation and reduction of the liquor traffic in our State.

The statement published broadcast that "In Colorado after a test of 17 years the result shows no gain in public or political morals over male suffrage States," is simply an assertion that has no foundation in fact. It is on a par with other written statements presented to this committee as follows: "If it were to be done over again the people of Colorado would defeat woman suffrage by an overwhelming majority." "There women vote and take bribes for their votes just the same as men do." "A woman political boss is not an object of feminine charm, and politics in Colorado are in no way improved because women vote." "The women who would demand the full life for all women are not sincere. The full life is only desired by a small minority of middle class, mostly college and professional women, who see in political positions a release from the strain of competitive life."

I feel that if I performed my full duty to the good women of Colorado I would characterize those assertions in the language which they so richly deserve. But inasmuch as they are circulated and reiterated thousands of times by people who never saw the State of Colorado, and know nothing about it, I will only say that they are utterly and unqualifiedly without any foundation in fact, reason, or fairness, and are nothing less than reckless and wanton libels and slanders on our State that are totally inexcusable.

THE WOMAN'S MOTTO IS "ONWARD."

The women of Colorado will continue to vote! The women of the world will continue to advance! The man or woman who tries to stop them will be justly relegated to oblivion. You politicians had better remember those three statements, because you will have occasion to reflect upon them. This is an age of individual liberty, and the male sex is not humanity, but only half of it.

There will be no backward movement in the fight for equal rights. Not one foot of ground that has been gained will ever be surrendered. And the people who try to make a little temporary notoriety by an attack on the sex are doomed in the end to disappointment, defeat, and ignominious humiliation. The continued disfranchisement of women is a relic of antiquity that belongs to other days. Purblind politicians and people who cling to prejudice in spite of facts as plain as the noonday sun may keep on fighting and misrepresenting the good women of the suffrage States, but they are coming to be as absurd as old Canute when he placed his throne on the beach and commanded the waves to recede.

The women of this Nation have little by little been taking more interest in public affairs, been reading more and becoming more intelligent and better posted, and each day is assisting a little more than the day before in solving the great problems that are to-day affecting the world. To say that she is going to take a backward step is to brand one's self as an imbecile. The 150 good laws that

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have been placed upon the statute books of Colorado during the past 18 years are a living proof which no one can question that some mighty moral force has held the pen that has written those laws into the history of our State, and that hand is the woman's hand. To attempt to deny that would be the same as denying that Colorado has progressed since her admission into the Union.

In every civilized country on the globe the women are fighting for their rights. They are gradually winning everywhere. The day is soon coming when they will take the place belonging to them—squarely beside the men in the settlement of all public matters. It is a great moral reform.

There will never be any surrender of any of the rights she has secured. There will be no retreat sounded. Their slogan is "Forward, march." And the whole world will rejoice and be benefited when they achieve their ultimate victory.

For the purpose of accurately showing the progress that the principles of equal rights is making all over the civilized world I will extend my remarks by inserting a statement which has been carefully prepared by that indefatigable defender of equal rights, Alice Stone Blackwell:

GAINS IN EQUAL SUFFRAGE.

Eighty years ago women could not vote anywhere, except to a very limited extent in Sweden, and in few other places in the old world.

Time.	Place.	Kind of suffrage.
1838	Kentucky	School suffrage to widows with children of school age.
1850	Ontario	School suffrage, women married and single.
1861	Kansas	School suffrage.
1867	New South Wales	Municipal suffrage.
1869	England	Municipal suffrage, single women and widows.
	Victoria	Municipal suffrage, married and single women.
	Wyoming	Full suffrage.
1871	West Australia	Municipal suffrage.
1875	Michigan	School suffrage.
	Minnesota	Do.
1876	Colorado	Do.
1877	New Zealand	Do.
1878	New Hampshire	Do.
	Oregon	Do.
1879	Massachusetts	Do.
1880	New York	Do.
	Vermont	Do.
	South Australia	Municipal suffrage.
1881	Scotland	Municipal suffrage to the single women and widows.
	Isle of Man	Parliamentary suffrage.
1883	Nebraska	School suffrage.
1884	Ontario	Municipal suffrage.
	Tasmania	Do.
1886	New Zealand	Do.
	New Brunswick	Do.
1887	Kansas	Do.
	Nova Scotia	Do.
	Manitoba	Do.
	North Dakota	School suffrage.
	South Dakota	Do.
	Montana	Do.
	Arizona	Do.
	New Jersey	Do.
	Montana	Tax-paying suffrage.
1888	England	County suffrage.
	British Columbia	Municipal suffrage.
	Northwest Territory	Do.
1889	Scotland	County suffrage.
	Province of Quebec	Municipal suffrage, single women and widows.
1891	Illinois	School suffrage.
1893	Connecticut	Do.
	Colorado	Full suffrage.
	New Zealand	Do.
1894	Ohio	School suffrage.
	Iowa	Bond suffrage.
	England	Parish and district suffrage, married and single women.

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GAINS IN EQUAL SUFFRAGE—continued.

Time.	Place.	Kind of suffrage.
1895	South Australia	Full State suffrage.
1896	Utah	Full suffrage.
	Idaho	Do.
1898	Ireland	All offices except members of Parliament.
	Minnesota	Library trustees.
	Delaware	School suffrage to tax-paying women.
	France	Women engaged in commerce can vote for judges of the tribunal of commerce.
	Louisiana	Tax-paying suffrage.
1900	Wisconsin	School suffrage.
	West Australia	Full State suffrage.
1901	New York	Tax-paying suffrage; local taxation in all towns and village of the State.
	Norway	Municipal suffrage.
1902	Australia	Full suffrage.
	New South Wales	Full State suffrage.
1903	Kansas	Bond suffrage.
	Tasmania	Full State suffrage.
1905	Queensland	Do.
1906	Finland	Full suffrage; eligible to all offices.
1907	Norway	Full Parliamentary suffrage to the 300,000 women who already had municipal suffrage.
	Sweden	Eligible to municipal offices.
	Denmark	Can vote for members of boards of public charities, and serve on such boards.
	England	Eligible as mayors, aldermen, and county and town councillors.
	Oklahoma	New State continued school suffrage for women.
1908	Michigan	Tax-payers to vote on questions of local taxation and granting of franchises.
	Denmark	Women who are taxpayers, or wives of taxpayers, a vote for all officers except members of Parliament.
	Victoria	Full State suffrage.
1909	Belgium	Can vote for members of the counseils des prudhommes, and also eligible.
	Province of Voralberg (Austrian Tyrol).	Single women and widows paying taxes were given a vote.
	Ginter Park, Va	Tax-paying women, a vote on all municipal questions.
1910	Washington	Full suffrage.
	New Mexico	School suffrage.
	Norway	Municipal suffrage made universal. (Three-fifths of the women had it before.)
	Bosnia	Parliamentary vote to women owning a certain amount of real estate.
	Diet of the Crown Prince of Krain (Austria).	Suffrage to the women of its capital city, Laibach.
	India. (Gaekwar of Baroda).	Women of his dominions vote in municipal elections.
	Würtemberg, Kingdom of	Women engaged in agriculture vote for members of the chamber of agriculture; also eligible.
	New York	Women in all towns, villages, and third-class cities vote on bonding propositions.
1911	California	Full suffrage.
	Honduras	Municipal suffrage in capital city, Belize.
	Iceland	Parliamentary suffrage for women over 25 years.

REMARKS OF HON. A. W. LAFFERTY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OREGON.

Miss ADDAMS. The next speaker is also a Member of this House—Mr. Lafferty, from Oregon—who introduced a resolution providing for an amendment to the Constitution to take the place of the fifteenth amendment. I do not need to introduce Mr. Lafferty to the members of the committee.

Mr. LAFFERTY. Mr. Chairman and gentlemen of the committee, I believe it is not only practicable but that it would be profitable to the United States to extend equal suffrage to men and women. This is the first time I have ever had the pleasure of hearing a speech in favor of equal suffrage, and this is the first time I have ever attempted to make a speech along those lines myself. But it seems to me that we have had here, this morning, a practical demonstration of the ability of the women of this country to participate intelligently in the discussion of public questions. I do not think that we

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could make a mistake, as a Republic, in placing the ballot in the hand that rocks the cradle. So far as I am concerned, and having only the best interests of this Republic at heart, I believe it would be a good thing if 50 of the best mothers of this country were in the House of Representatives to-day. [Applause.] I wish that at least 25 of the sainted mothers of the United States were in the Senate to-day. [Applause.]

I hope this statement does not sound strange to you.

You should consider, as lawyers and as statesmen and as historians, as I know you to be, that in the history of the civilized world in monarchies the women have participated in the Government; it is a shame that in a Republic like ours, the best form of government that has ever yet been established, women can not, under the present law, actively participate in our government. In England, the greatest monarchy, the only Government that rivals our own, we have an opportunity to compare the progress made under government by men and government by women—that is, as the fountainhead of power. I wish to call your attention this morning to the fact that never was greater progress made in any civilized country, not even in our own, than was made under the reign of Victoria.

Mr. LITTLETON. Admitting that the argument in behalf of woman's suffrage that has been advanced is perfectly correct, will you explain the necessity for the machinery embodied in these various bills through the medium of an amendment to the Constitution of the United States when the question of suffrage has always been a matter of amendment to the State constitutions?

Mr. LAFFERTY. It is not absolutely necessary that this right of equal suffrage be extended by the Federal Government. It may be extended by one State at a time, by the State legislatures. But I say that the time has come—States have taken the lead—but the time has arrived when the Federal Government should give to the women of this country rights under the law with the men of this country.

The CHAIRMAN. Your time has expired.

Mr. LAFFERTY. I have just received a telegram on this subject from Mrs. Abigail Scott Duniway, of Portland, Oreg., which I desire to insert in the record.

The CHAIRMAN. That will be done.

The telegram referred to by Mr. Lafferty is as follows:

PORTLAND, OREG., *March 12, 1912.*

Congressman A. W. LAFFERTY,
Washington, D. C.:

Receiving your wire that the matter of an amendment to the Constitution of the United States granting suffrage to women will come before congressional committee to-morrow, and believing the committee would be interested in the trend of sentiment in Oregon on this great question of equality before the law for women, I forward this to you.

An amendment to the constitution of Oregon guaranteeing suffrage to all citizens of the State is to be voted on at the November election, originated by initiative petition. It also received the sanction of the legislature. Although similar amendments have failed of adoption at three different elections in the past 28 years, this year sentiment is crystallizing so generally in its favor that voters all over the State are predicting its success. Clubs composed of both men and women are being formed in every section, with votes for women as their motto. Leading newspapers of the State are advocating and forecasting adoption of the amendment. Oregon has been greatly aided in advancing public sentiment toward extending equality to its women by its northern and southern

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neighbors, Washington and California, where the women voters, by the wise and conservative manner in which they have cast their ballots, have shown the practical expediency, as well as the justice of this advanced step in self-government. I believe the time is ripe for such an amendment to the Constitution of the United States, and hope the congressional committee will recommend it.

ABIGAIL SCOTT DUNIWAY,
President Oregon State Equal Suffrage Association.

The CHAIRMAN. I desire to say at this time that the committee will consider a statement made by Hon. Victor Berger on the pending resolution, which was handed to me, and I will turn it over to Miss Addams for such disposition as she cares to make of it. She may either read it, or it will be printed in the record, as Miss Addams may determine.

Miss ADDAMS. The next speaker is not a Member of the House, although she is eligible. Mrs. Kent, of California, will speak to us of the educational advantages of the campaign for the ballot. She has recently borne a valiant part in such a campaign.

The CHAIRMAN. The committee will be pleased to hear Mrs. Kent.

REMARKS OF MRS. WILLIAM KENT, OF KENTFIELD, CAL.

Mrs. KENT. Mr. Chairman and gentlemen of the committee, the United States is committed to a democratic form of Government, government by the people. Those who do not believe in the ideals of democracy are the only ones who can consistently oppose woman's suffrage.

I heard a man arguing against woman's suffrage by saying he believed in a division of labor, the men to vote and decide political questions as part of their work, and women to have other duties, equally useful. You can not make such a division of labor if you believe in a democracy, if you believe in self-government, any more than you can give all the eating and sleeping to half the community while the other half does something else equally useful.

In the California campaign we had an effective poster with the incontrovertible, yet suggestive statement, "Lincoln believed in government by the people. Women are people." We want to be recognized as people; we want our share of responsibility in the Government under which we live.

In a democracy the only hope of good government lies in an enlightened, responsible citizenship. The hope of democracy is in education. There is food for thought in the fact that the early education of all the citizens is now administered by a class who have no vote.

In the New York suffrage parade last year the mothers marched under a banner which read "We prepare the child for the State. Let us help prepare the State for the child." What education have women received to fit them for that?

In our recent California Legislature which has attracted so much attention all over the countries of the world, at the end of its last session, when it passed the bills which were to be referred to the people on October 10, a very sensible and intelligent thing was done. Speeches for and against each one of these amendments were prepared and published and a little pamphlet with these arguments was sent to every voter. Now, a man—and he was a good man, too—who argued against woman's suffrage, said that women should not

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descend into the dirty mire of politics; that the vote would be of no value to them. In the same argument, he said that women should teach their sons their sacred duties as citizens, and teach their sons to hold the ballot as the most sacred and precious inheritance of every American boy.

Can we accept all these statements? Can we really bring up our sons with a clear sense of civic responsibility when we have none?

The evidence goes to show that we have not done it. We believe that our children need what we shall learn in becoming citizens, and that the State needs what we have learned in being mothers and home makers.

Take the example of our prisons, public institutions for which the voter is responsible. These institutions do not redound to the credit of the voter, the man who has not been taught his social responsibility. We see in the prisons the result of the commercial and the military way of conducting affairs, the traditional way of the man. One's ideal of a mother and teacher is not that of a strict disciplinarian, of one bent on punishing, but an integral part of the work of most women is that of dealing with the unruly. Her problems have always been to keep her children in the path of virtue, so far as her love and her wisdom and her wits will help her, and to bring them back if they stray. Prevention and correction are problems she has lived with and studied. Those are the real problems in dealing with those who have gone wrong.

In connection with the problems of the prison there is a woman's mop and broom and scrubbing brush. You will admit that there is room in the prisons for these things, as much there as in our households; and if the women had the vote, they would insist on bringing these necessary things into those institutions.

And as with the prisons, so with the other questions of our social life—which is but the family life enlarged—is not the woman's point of view needed? Can you not see that she has something to offer, and that it is a desire to serve that actuates her in asking for the ballot?

Miss ADDAMS. May I present next, Mr. Chairman, Mrs. Harper? She has been before other congressional committees with Miss Susan B. Anthony, who for so many years appeared to present this cause. Mrs. Harper has written a history of the equal-suffrage movement, and also a very fine biography of Miss Anthony, and it is with special pleasure that I present her. She will make the constitutional argument, and perhaps answer the questions which a member of the committee put to Mr. Lafferty.

REMARKS OF MRS. IDA HUSTED HARPER, OF NEW YORK CITY.

Mrs. HARPER. Mr. Chairman and members of the committee, this argument presented to-day shall be based entirely on the Federal Constitution, and the only authorities cited will be the utterances of two Presidents of the United States within the past month.

In the Columbus, Ohio, speech of Mr. Roosevelt, opening his campaign, he said:

> I hold with Lincoln that "this country, with its institutions, belongs to the people who inhabit it. Whenever they grow weary of existing government they can exercise their constitutional right of amending it."

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We appear before you representing a class of citizens who are exceedingly "weary of the existing government," but are wholly deprived by its Constitution of any right or power to change it. We ask you, therefore, what or where is our redress? But one other class could come to you as helpless—the Orientals within our boundaries—but they have not the mockery of citizenship.

I emphatically protest—

Said Mr. Roosevelt—

against any theory that would make of the Constitution a means of thwarting instead of securing the absolute right of the people to rule themselves.

Except by physical force there is but one way in which people can rule themselves and that is through choosing their own representatives in the Government by means of a vote. This is practically forbidden to women by the fourteenth and fifteenth amendments to the National Constitution which authorize the State constitutions to prohibit it directly.

To quote Mr. Roosevelt once more:

The object of every American constitution must be what is set forth in the preamble to the National—to "establish justice" by means of popular self-government. If the Constitution is successfully invoked to nullify the effort to remedy injustice, it is proof positive either that the Constitution needs immediate amendment or else that it is being wrongfully and improperly construed.

When women citizens have invoked the National Constitution in their efforts to establish the justice of a voice in their own government, the Supreme Court of the United States has repeatedly construed it as not conferring this right. As women had no appeal from its being "wrongfully and improperly construed," they accepted the alternative that "it needed immediate amendment."

For this purpose they began making their pilgrimages to Washington in 1869, and they have brought their case before the committees of every Congress since that time. Of those first petitioners there is not one living, and probably not one man of the committees who listened to their voices. Some of those who address you to-day belong to the third generation who have come to this Capitol seeking "to establish justice."

Turn for a moment to the opinions of another President of the United States, the one who now occupies this exalted position. In the speech of Mr. Taft at Toledo, Ohio, inaugurating his present campaign, he said:

From our body politic we have excised the cancer of slavery, the only thing protected by the Constitution inconsistent with that liberty, the preservation of which was the main purpose of establishing the Union.

In the first establishment of our Union its main purpose was not to preserve physical but political liberty; and when the second struggle came, if it had been only to guarantee personal freedom, the thirteenth amendment to the National Constitution would have alone been sufficient, but the fourteenth and then the fifteenth were added in order to secure political freedom. And while this is still denied to half the citizens the roots of the cancer yet strike deep in the body politic.

Then, defending the courts, President Taft said:

The great body of the law * * * is founded on the eternal principles of right and morality. * * * As between the individual and the State, the

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majority and the minority, the powerful and the weak, financially, socially, and politically, the courts must hold an even hand and give judgment without fear or favor.

The man filling the highest elective legal position in New York City said to me a short time ago:

After many years of practice at the bar and many years of service on the bench, I am firmly convinced that women can never receive exact justice in the courts until they become voters. While judges may be absolutely impervious to every other influence, they can not wholly ignore political power.

This fact must be universally recognized that disfranchisement is not only a great handicap to women legally but also economically, and socially in the large sense of the word, while politically its puts them out of the race.

In this Toledo speech President Taft earned the profound regard of women by casting aside the flimsy pretense of universal suffrage and saying:

The best government, in the sense of the one most certain to provide for and protect the rights and governmental needs of every class, is that one in which every class has a voice. In recognition of this, the tendency from earliest time has been the enlargement of the electorate to include as many as possible of those governed; but even to-day the government is by a majority of one-fourth. This is the nearest to a Government of the whole people that we have ever had. But woman suffrage will change this, and it is doubtless coming as soon as the electorate can be certain that most women desire it and will assume its burdens and responsibilities.

Gentlemen of the committee, in the nearly a century and a half of our Government this is the only expression in favor of woman suffrage ever publicly made by a President of the United States! We appreciate it and welcome it, but we regret that Mr. Taft should impose upon women a requirement never imposed upon men in our own Government or any other in the world's history—to prove that a majority want the suffrage and would use it. No class of people in any country has ever been enfranchised at a request or with any pledges from the majority, but always because of the efforts of a few strong, patriotic leaders, and ostensibly, at least, as an act of justice by the Government. If, in the words of Mr. Taft, "the best government and the one most certain to protect the rights of every class is that one in which every class has a voice," then the United States Government should no longer quibble over the exact number who desire to have their rights thus protected.

Since, however, the excuse for withholding the franchise from women has now practically narrowed down to this one point, they will accept the issue. A few days ago United States Senator Henry Cabot Lodge made a speech at Princeton University in which he used this sentence:

It is quite true that the voters are the means by which we necessarily obtain an expression of the popular will.

There is indeed but one sure way to learn whether women want the ballot and will use it, and that is to make them voters and watch the result. By this test the advocates of women's suffrage are willing to have the question judged.

The women of California were enfranchised in October, 1911. In Los Angeles, one month later, 85,546 registered—nearly all in the city who were eligible—and the following month 95 per cent of these voted—a record never made by men. This might be considered an

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emergency, but from all parts of the State come reports of a proportionate registration for the usual spring elections. Within three months after the women of Washington became electors—in 1910—over 22,000 went to the polls and deposed a corrupt mayor, and last week they defeated him for reelection. Tacoma has a similar story. In Wyoming, as Territory and State, women have been voters 42 years; in Utah, 33; in Colorado, 18; in Idaho, 16. The official election returns show that from the beginning to the present time they have voted in just as large a proportion as men, and frequently in a larger proportion. These facts prove that in the six States where women are permitted to vote they have satisfactorily met the supreme test of whether the majority of women want the suffrage and would use it. Basing their claim on this unimpeachable record, the women of other States demand the franchise.

I will close this argument with one more very recent quotation from President Taft. In speaking of the capacity for self-government, he said:

> It is the question of self-imposed restraint that determines whether a people is fit to govern itself.

We can offer no stronger evidence of the self-restraint of women than the fact that, although they have come before these committees of Senate and House with their petitions and arguments 43 years, only to be treated with contemptuous indifference and neglect, they have never departed from the strictest rules of dignity and self-control. Forty-three years in asking for this amendment they have followed an entirely legal and constitutional method of procedure, which has been so absolutely barren of results that in the past 19 years these committees have made no report whatever, either favorable or unfavorable. How much longer do you expect women to treat with respect National and State constitutions and legislative bodies that stand thus an impenetrable barrier between them and their rights as citizens of the United States?

The CHAIRMAN. Mrs. Harper, the committee will be very glad that you extend your remarks to answer a question propounded by Mr. Littleton a while ago. I wish to say that this committee, during my service on it, has always been met with this proposition when this amendment was proposed, that the States already have the authority to confer suffrage upon women, and, therefore, why is it necessary for women to wait for an amendment to the Federal Constitution when they can go now to the States and obtain this right to vote, just as the women of California did last year?

Mrs. HARPER. Mr. Chairman, the women are not waiting; they are keeping right on with their efforts to get the suffrage from the States. They began in 1867 with their State campaigns and have continued them ever since. But in sending the women to the States, you require them to make 48 campaigns and to go to the individual electors to get the permission to vote.

After the Civil War, the Republican Party with all its power and with only the Northern States voting, was never able to get the suffrage for the negroes. The leaders went to State after State, even to Kansas, with its record for freeing the negroes, and every State turned down the proposition to give them suffrage. I do not believe that the individual voters of any State would give the suffrage to any new class, even of men. The capitalists would not

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let the working people vote if they could help it, and the working people would not let the capitalists vote; Catholics would not enfranchise the Protestants, and the Protestants would not give the vote to Catholics. You impose upon us an intolerable condition when you send us to the individual voters. What man on this committee would like to submit his electoral rights to the voters of New York City, for instance, representing as they do every nationality in the world? If we could secure this amendment to the Federal Constitution, then we could deal with the legislatures, with the selected men in each State, instead of the great conglomerate of voters that we have in this country, such as does not exist in any other.

The CHAIRMAN. But if one of these suffrage resolutions should be favorably reported, and both Houses of Congress should pass it, of course it would be referred to the States, and then before it became a law it would have to have their approval.

Mrs. HARPER. Only of the legislatures, not the individual voters.

The CHAIRMAN. Of the States acting through their legislatures?

Mrs. HARPER. Yes.

The CHAIRMAN. That is the States, you know.

Mrs. HARPER. I think you would fully preserve the idea of States' rights by letting the legislatures of each State decide it. We ask for the easiest way to secure our enfranchisement.

The CHAIRMAN. You used an expression which a member of the committee has asked me to have you explain. You used the expression "conglomerate of voters," which you said does not exist elsewhere. The desire is to know to whom you refer.

Mrs. HARPER. I mean no disrespect to the great body of voters in the United States; but in every other country the voters are the people of its own nationality. In no other would the question have to go to the nationalities of the whole world as it would in our country. [Applause.]

The CHAIRMAN. Because we have a mixed population you designate them as a conglomerate of voters?

Mrs. HARPER. Conglomerate in the sense of being a mass without any definite coherence. For instance, we have to submit our question to the negro and to the Indian men of the whole country, when we go to the individual voters, and we have to submit it to the native-born Chinese, and to all those men from southern Europe who are trained in the idea of woman's inferiority.

The CHAIRMAN. You do not propose, then, to enfranchise all the women who may be in this country in the amendment?

Mrs. HARPER. No matter what it may propose, these men may vote on the question.

The CHAIRMAN. You question, do you not, their fitness for the franchise?

Mrs. HARPER. I do not question anybody's fitness for the franchise. We only say that you put upon us conditions which are not put upon women anywhere in the whole world outside of the United States.

Mr. LITTLETON. I asked Mr. Lafferty a question about this proposed amendment to the Constitution. Assuming there is no objection to woman suffrage at all, I ask whether you would make any headway by the adoption of this amendment, and thereby make the only exception on the question of suffrage, except in the case of the

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negro vote. The States control suffrage absolutely. In this particular case it would be the National Government forbidding the States to deny women the right to vote. You would have to convince every legislator of the fact that this amendment to the National Constitution ought to be adopted. If you could convince the legislatures of three-fourths of the States, you could get three-fourths of them to grant the suffrage itself.

Mrs. HARPER. They could only grant it to the extent of sending us to the individual voters, while if this amendement were submitted by Congress, and the legislatures indorsed it we would never have to deal with the individual voters.

Mr. HIGGINS. In other words, as I understand you, you have more confidence in the legislatures than in the composite citizenship.

Mrs. HARPER. The composite male citizenship, you mean. We suppose, of course, that the legislatures represent the picked men of the community, its intelligence, its judgment, the best that the community has. That is the supposition! [Laughter.]

The CHAIRMAN. That supposition applies to Congress also, does it? [Laughter.]

Mrs. HARPER. In a larger degree.

The CHAIRMAN. The committee is very much obliged to you, Madam.

Miss ADDAMS. Mr. Chairman, while Mrs. Harper has presented one point of view to you, living as I do in a community in which there are large numbers of immigrants, I would like to present the other point of view. We found when we had a big campaign in Chicago that some of the best help we had was from the immigrant communities. All of the Scandinavian women who had voted on municipal matters at home came into our municipal campaigns and were the best speakers and workers we had. The Italian and German women know of the woman's movement in their home countries and often ask why they are not drawn more quickly into the suffrage movement in America. They will all be interested in time; it seems well to try several ways, but in the end we are willing and eager to submit our cause to the people of America, and when that time comes I am sure we will have much more help from the immigrant communities than we realize because they know we are falling behind the European movement. That is my personal testimony, having lived for more than 20 years among a large number of immigrant people.

I should like to ask Mrs. Phillips, who is from Milwaukee, to read Mr. Berger's statement.

We have several requests to bring before the committee; shall I present them this morning?

The CHAIRMAN. What is the pleasure of the committee? I would suggest that they be offered after the luncheon hour.

Mr. LITTLETON. Is it possible for Mr. Berger to be here himself?

Miss ADDAMS. He is in Milwaukee.

The CHAIRMAN. We might continue this hearing. Would that suit you? If you could conclude the hearing by 1 o'clock, we might continue until that hour.

Miss ADDAMS. Would our sisters on the other side be heard in that hour?

The CHAIRMAN. They have asked for only 10 minutes.

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Miss ADDAMS. I will ask, at this time, that Mr. Berger's statement be read, and then we will have one more speaker. Will the other side then present their statements, giving us an opportunity for rebuttal. Mrs. Phillips will read Mr. Berger's statement.

The CHAIRMAN. Please give your name and address to the reporter.

Mrs. PHILLIPS. Mrs. Elsie Cole Phillips; Milwaukee, Wis. Mr. Chairman, I have thought a great many times that Victor Berger was the most fortunate of human beings in being the representative of the greatest political party in the greatest deliberative body in the world. It fills me with happy pride to slip into his shoes for just a moment, although I readily admit they are both literally and figuratively a loose fit. [Laughter.] This is Mr. Berger's statement [reading]:

STATEMENT ON WOMAN SUFFRAGE BY VICTOR L. BERGER, MEMBER OF CONGRESS.

Woman suffrage is a necessity, both from a political and an economic standpoint. Woman are a part of the demos—of the people. They are the other half. We can never have democratic rule until we let the women vote. We can never have real freedom until the women are free. To quote the immortal Lincoln on slavery, we can not endure as a nation half free and half unfree.

Women are now citizens in all but the main expression of citizenship—the exercise of the vote. They need this power to round out and complete their citizenship. Already they have this power in six of the States of the Union. They must have it in all of the States in order that their rights and powers of citizenship may be equal everywhere within the Nation.

In political matters they have much the same interests that we men have. In State and national issues their interests differ little, if at all, from our interests. In municipal questions they have an even greater interest than we have. All the complex questions of housing, schooling, policing, sanitation, and kindred matters are peculiarly the interests of women as the home maker and the rearer of children. Women need and must have the ballot by which to protect their interests in these political and administrative questions.

The economic argument for woman suffrage is yet stronger. Economics plays an increasingly important part in all our lives, and political power is absolutely necessary to obtain for women the possibility of decent conditions of living. The low pay and the hard conditions of working women are largely due to their disfranchisement. Skilled women who do the same work as men for lower pay could enforce, with the ballot, an equal wage rate.

The ideal woman of the men of past generations (and especially of the German) was the housewife, the woman who could wash, cook, scrub, knit stockings, make dresses for herself and her children, and take good care of the house. That ideal has become impossible. Those good old days, if ever they were good, are gone forever.

The housewife used to wash. Now the laundry has taken away her washtub and does the work better and cheaper. The "hausfrau" used to knit stockings. Now the knitting factory does her knitting. The frugal housewife can buy two pair of stockings for a quarter. She can buy dresses cheaper and better than she can make them.

Even the scrubbing, ironing, and house cleaning are now done by electricity. In many of the large apartment houses of New York and Washington no cooking in apartments is permitted. Instead there is one restaurant, where usually they have a man cook. And the workingman, as a rule, eats only one meal a day—or, at best, two meals a day—at home. The kitchen is slipping away from the woman.

In the good old days, moreover, the woman was supported by her father first and later by her husband. The situation is entirely different now. The woman has to go to work, often when she is no more than 14 years old. She surely has to go to work sometime, if she belongs to the working class. She must make her own living in the factory, the store, the office, or in the schoolroom. She must work to support herself, and often must also support her family.

The economic basis of the life of a woman has changed in America as well as in England and Germany. And therefore the argument that a woman should

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not vote because she ought to stay at home and take care of her family is an argument the basis for which has been destroyed. She can not stay at home, whether she wants to or not. She must go to work to take care of the family. She has acquired the economic functions of the man, and she ought also to acquire the franchise. Without that franchise she can not protect her interests as a wage earner.

It is often maintained that women are, as a rule, ignorant of politics and that they would make a mess of it if the franchise were given them. It can not, however, be asserted that men have made so brilliant a success of politics as to warrant them in doubting the political capacity of women. Women, no doubt, are, as a rule, untrained in politics. Their ignorance, however, is due to a lack of training. When the vote is first given them they blunder with it, of course. So, often, do the young men of 21. With more experience, with the consciousness of having the ballot and of its power for good and evil, women soon learn to use it as men use it—for the protection of their political and economic interests. That is the history of woman suffrage in the Western States.

The Socialist Party ever since its origin has stood steadfastly for woman suffrage. It has made this demand of prime importance in all of its platforms everywhere. It recognizes that one-half of the race can not free itself while leaving the other half unfree. It demands woman suffrage for the same reason that it insists upon manhood suffrage—that the race may become politically free, as a preparation for economic freedom.

Miss ADDAMS. We are very happy to have this message from Mr. Berger.

May I introduce, now, one of my own fellow townswomen, Miss Mary McDowell, who has had what I may call a distressing life in the stockyards district of Chicago for many years, and she will tell you of the conditions there and what she thinks the franchise will do toward cleaning it up?

REMARKS OF MISS MARY E. M'DOWELL, OF THE UNIVERSITY OF CHICAGO SETTLEMENT, CHICAGO, ILL.

The CHAIRMAN. Give your name and address to the stenographer.

Miss McDOWELL. Mary E. McDowell, Chicago University Settlement, Chicago, Ill.

I am not one of those who believe that if we get the suffrage that we are going to have a millenium or that we can clean up the stockyards entirely and vouchsafe that all of the sausages will be exactly right. But I do believe, with Mrs. Podger, in Adam Bede. She said, "I am not denying that women are foolish; God Almighty made them to match the men." So we are all, together, very human, it seems to me, both men and women; and it is because we are human, because this is a human proposition and not a woman proposition, that I am glad to speak for it, and it is because it is human that I believe in it so firmly. Giving the vote to women is not simply a woman's question. It is a human question. It has to do with the man, the child, the home. Women have always worked, but within less than a century millions of women and girls have been thrust out of the home into a man-made world of industry and commerce.

We know that in Germany nearly 9,000,000 women are self-supporting; that in the metal trades alone women are in such numbers that in the metal workers' union of half a million members 25,000 are women. In England there are nearly 6,000,000 women and girl wage earners, while in America over five and a half million, according to the census of 1900, are bread winners; and the latest fact states that 59 per cent of the girls in America are earning some kind of a living not only for themselves but for others as well.

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These facts must suggest to any thoughtful person that women have come into a new time and have to deal with new conditions, and that these new conditions demand a new view of their double responsibilities. For the working woman carries a double burden—that of the home and the factory. It has been placed upon her, creating new duties that can not be shifted onto men, but must be shared with them, or the wage-earning women and the future homes of America will suffer. Whether we like it or not, this great movement of women out from the home is too tremendous to be put aside by that old-fashioned notion, even though it be a chivalrous one, held by one of our great statesmen, who, when asked if he believed women should have the vote, answered, looking at his wife and daughters: "Oh, no; I think women should be protected." Is it not a large undertaking for the men of the old school of chivalry to protect those millions of young working girls and women? Can anyone give to women any real protection except they themselves?

Do we not see that the working women must be given every safeguard that workingmen have, for now as they stand side by side with men in the factory and shop they must stand with them politically. The ballot may be, to be sure, but a small bit of the machinery that is to lift the mass of wage-earning women up to a higher plane of self-respect and self-protection, but will it not add the balance of power so much needed by the workingmen in their struggle for protective legislation, which will in the end be shared by the women? To-day women are cheap, unskilled labor and will be until organization and technical training, and the responsibility of the ballot in their hands will develop a consciousness of their social value.

The home is affected by everything that affects the woman, who is the home maker. She has to learn to value herself by a new social standard, for society dare not permit motherhood to be cheapened. Women themselves must become conscious of the effect of irresponsibility in a wage-earning world, and in this new life they did not ask for they must realize the danger of undervaluing themselves. The vote and all that it implies will awaken this sense of value. It will give to the wage-earning woman a new status in industry, that world that is dominated by men, for they will help to educate her when she is a political as well as an industrial coworker. Even her boss will see her in a new light; and she, with her double burden of the home and the factory, will recognize that no one but herself can give the protection she and the home need.

As man gave strength to the developing of the institution of the home, woman must be given the opportunity to help man to humanize the State. This can be done only when she has the ballot and shares the responsibility.

At this moment this seems to me the most urgent demand for the vote for women. The home is in grave danger unless the home maker is made conscious of her new conditions and new duties.

Miss ADDAMS. We have one or two other speakers, but I should prefer, if I have your permission, Mr. Chairman, to reserve them until after the statement is made by the other side.

Mr. RUCKER. What is your pleasure?

Miss ADDAMS. My pleasure is to have the other side speak now.

Mr. RUCKER. How much time will the other side desire?

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Miss BRÉHAUT. We ask only a few minutes; just time enough to read two or three typewritten pages.

Mr. RUCKER. You may proceed. Give your name and address to the reporter.

Miss BRÉHAUT. Miss Ella C. Bréhaut, Washington, D. C. I am a member of the executive committee of the National Association Opposed to Woman Suffrage.

In the enforced absence of Mrs. Goodwin, the chairman of the District of Columbia Auxiliary of the National Association Opposed to Woman Suffrage, I have been requested to read a very short statement prepared by her, and addressed to your honorable committee [reading]:

Mr. CHAIRMAN AND GENTLEMEN OF THE COMMITTEE:

The members of the National Association Opposed to Woman Suffrage, through their president, Mrs. Arthur M. Dodge, of New York, have authorized the auxiliary of the District of Columbia to present at this hearing their earnest protest against the further extension of the suffrage to women through amendment of the Federal Constitution, and they respectfully request that this protest be printed with the other statements made this day before your honorable committee.

We desire to call attention to the following facts:

First. It is useless for the National Woman Suffrage Association to attempt to secure an amendment to the Federal Constitution before they have assured themselves that three-quarters of the States will ratify the amendment after its adoption. As such an amendment could not be ratified for many years to come, if ever, its adoption at this time would be an absolute waste of time and energy.

Second. The majority of the women of this country do not favor woman suffrage, and are either indifferent or actively opposed. Miss Jessie Ashley, treasurer of the National Woman Suffrage Association, says that according to a rough estimate, the women favoring suffrage number 3,000,000. This is a high estimate, in view of the fact that only 75,000 are organized. The last information from the Bureau of the Census gives the estimated female population of continental United States as approximately 46,000,000. This total female population and the estimate of Miss Ashley necessarily include those who are under age, but the fact remains that the suffrage party represents but a small proportion of the whole number of women.

Third. American conditions in no way resemble those of the countries in which suffrage is granted to women. If it were given to all the women of this country, the large and ignorant element among negroes and naturalized foreigners, corruptible because ignorant, would be doubled, and the difficulty of handling an already cumbersome and unwieldy electorate would be greatly increased, and the attendant expense enhanced, while the intelligent element which ought to be a source of strength would be overwhelmed by numbers and lose its direct nonpartisan power of influencing legislation, which it now possesses because unsuspected of interested or selfish motives.

Fourth. There has been formed this year a National Association Opposed to Woman Suffrage, and State associations allied therewith are being organized with rapidity, to express the active opposition of women who have recently been aroused to aggressive effort against woman suffrage. Among the members will be found very many of the sanest, most useful, and best-known women of America, who desire their wishes in this matter to be presented to the governing bodies of our country in no uncertain terms, feeling sure that they will be given every consideration of fairness in the study of this question, and that their wishes and convictions will be duly weighed.

Fifth. It is manifestly unfair that a question involving so many women should be settled at the behest of a few, and that the majority should have thrust upon them duties and burdens which they are unwilling to assume.

We respectfully request that the gentlemen of this honorable committee carefully consider our protest.

GRACE DUFFIELD GOODWIN,
Chairman of the Auxiliary of the District of Columbia,
Representing the National Association Opposed to Woman Suffrage.

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Miss BRÉHAUT. Personally, Mr. Chairman and gentlemen, I should like to say, being a working woman myself, that I do not believe the majority of working women want woman suffrage. I have in my possession a letter from the treasurer of the National Woman Suffrage Association in which she says, "the working women are not with us, and we will never get suffrage until they are."

Miss ADDAMS. May I make a reply to one or two things, Mr. Chairman; a stock rèply, so to speak?

The CHAIRMAN. The committee will be very glad to hear from you.

Miss ADDAMS. The fact that the amendment must be submitted to the States, and three-fourths of the States pass upon it, will be of great educational value to each State having an amendment before its legislature. For instance, in Illinois, we can not otherwise secure the full franchise for women save by a change in the constitution.

Mr. HIGGINS. Would it disturb you if I should ask you a question?

Miss ADDAMS. No.

Mr. HIGGINS. Are you in accord with Mrs. Harper's view, that the matter had better be submitted to the legislatures rather than to the citizenship of the States?

Miss ADDAMS. No; I should like to do it in both ways. In Illinois we would have to have a constitutional convention before we could have the State and Federal franchise. It is a long and difficult process to call a constitutional convention; it is tied up with many checks and counterchecks. We shall be glad ultimately to submit the question to the people, but in the meantime to submit the Federal amendment to the legislatures gives us an educational opportunity. We do not in the least distrust the people.

Mr. HIGGINS. It occurred to me that Mrs. Harper's statement was one of the worst indictments of the referendum that I have ever heard.

Miss ADDAMS. I do not agree with Mrs. Harper altogether. If you give the franchise to every adult woman in the United States you would approximately double the native vote, but you would not double the immigrant vote. In my neighborhood we have 20,000 Greek men and less than 1,000 Greek women. There are many more foreign men than women in this country, particularly among the Slavs. If you gave the franchise to every adult woman in the United States, you would cut your immigrant vote while you would double your American vote. I am, however, not one of the people who believe that the immigrant vote is a vote to be feared.

Mr. HIGGINS. I hold the same view expressed by Dr. Lyman Abbott on this subject. I am in favor of the suffrage if the matter is submitted to women and the majority of them vote for it.

Miss ADDAMS. That has never before been required from any other class desiring the franchise. You did not wait for every negro to vote for it; they might not have had it yet. That was not done in the Chartist movement in England. The franchise was extended to the workingmen in England in that long agitation starting in 1832, not because every workingman wanted it, but because the leading statesmen saw the advantage of the ballot to the workingman himself and to the political life of the Nation.

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The CHAIRMAN. Would it disturb you if Mr. Davis were to ask you a question?

Miss ADDAMS. Not at all.

Mr. DAVIS. Then, the disproportion existing between the immigrants at this time is not merely temporary?

Miss ADDAMS. I think it is. Every new immigration begins always with the younger men, later the families come.

Mr. DAVIS. But, ultimately, the sexes will equalize among that class?

Miss ADDAMS. But they will equalize gradually, and there will always be, I think, new immigrants coming, perhaps some disproportion will always remain.

Mr. DAVIS. Do you know whether statistics show a disproportion of men and women among negroes?

Miss ADDAMS. No; I do not know that. I assume that they are approximately equal, as it is in other races.

Mr. HIGGINS. If you did not think the majority of women wanted full suffrage, you would not favor it, would you?

Miss ADDAMS. Yes, sir. It is not a question of forcing it upon the women who do not want it. It is a question of giving it to the minority who do want it.

Mr. HIGGINS. You do not take the view, then, which has been advanced by a good many, that the failure to exercise suffrage should work as a deprivation of the franchise?

Miss ADDAMS. No; I do not. I think if a man is not interested he ought not to vote. He does no good voting blindly.

Mr. HIGGINS. So you assume an interest, always.

Miss ADDAMS. He should be interested, but if he is not, the man who does not want to vote ought to stay at home.

Mr. LITTLETON. Do you think failure to exercise suffrage ought, as sometimes, to cause a forfeiture of it or a suspension of it?

Miss ADDAMS. No.

Mr. LITTLETON. Do you not think the person who has suffrage and does not pretend to use it ought to have it suspended for a while?

Miss ADDAMS. No; I should not penalize him. The point is, that those of us who do want to vote, can not; those who do not want to are not being forced to.

Mr. LITTLETON. In these election frauds that have come up in some States, as suggested by Mr. Davis, they punished them for the misuse of the suffrage.

Miss ADDAMS. I think for grafting.

Mr. LITTLETON. You think there ought to be some law depriving persons of the right to vote because they have misused it?

Miss ADDAMS. There is a difference between misusing it and merely not using it.

Mr. LITTLETON. That is the question I am asking you. It has occurred to me there ought to be some sort of penalty or a suspension of it until they do come to a realization of the use of it.

Miss ADDAMS. Women would be pleased to take up such questions later, after we have the vote.

Mr. LITTLETON. Yes; I was anxious to have your view. Can not the constitution of Illinois be amended in any fashion without a constitutional convention?

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Miss ADDAMS. Yes; but our constitution is very difficult to amend. The legislature can propose only one amendment at the same session, and that article can not be again amended for four years. There are proposed amendments pending covering many years to come.

Mr. LITTLETON. Can not the Legislature of Illinois grant women suffrage?

Miss ADDAMS. No; they have not that power. Every year we go before them asking for county and municipal franchise, but they have no power to allow us to vote for governor or for President of the United States.

Mr. DAVIS. They have no power to organize and submit a constitutional amendment?

Miss ADDAMS. They have to do it through a constitutional convention. They can not do it by legislative enactment.

The CHAIRMAN. Can not the people of Illinois have a constitutional convention at any time if they see fit?

Miss ADDAMS. Yes; but there are many, many things——

The CHAIRMAN. In that way they could reach your complaint?

Miss ADDAMS. Yes.

Mr. HIGGINS. The legislature can not amend the constitution?

Miss ADDAMS. A constitutional convention must be called, specifying the subjects to be submitted.

The CHAIRMAN. I suppose Judge Sterling could answer that.

Mr. STERLING. I think that is substantially correct.

Miss ADDAMS. I should like to say one more thing in regard to working women. I know a great many working women, and certainly I know of no class of women who so clearly see the necessity for the vote or so sorely need the power of protecting themselves as working women do. They are becoming increasingly conscious of it. We have a 10-hour law in Illinois, and hope to soon have a law to protect the women in dangerous trades. At every session of the legislature there is more and more legislation for the protection of working women. It is the trade-union girls themselves who always appear before the legislature and make arguments. It is not a philanthropic undertaking at all. It is being pushed by the working women of Illinois.

I should like to call upon Miss Lowe as the next speaker. She lives sometimes in Chicago and sometimes in Kansas City, but I will claim her for a fellow citizen. Miss Caroline A. Lowe.

The CHAIRMAN. We will be glad to hear from Miss Lowe.

REMARKS OF MISS CAROLINE A. LOWE, OF KANSAS CITY, MO.

Miss LOWE. Mr. Chairman, it is as a wage earner and on behalf of the 7,000,000 wage-earning women in the United States that I wish to speak. I entered the ranks of the wage earners when 18 years of age. Since then I have earned every cent of the cost of my own maintenance and for several years was a potent factor in the support of my widowed mother.

NEED OF THE BALLOT.

The need of the ballot for the wage-earning women is a vital one. No plea can be made that we have the protection of the home or are represented by our fathers or brothers.

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We need the ballot that we may broaden our horizon and assume our share in the solution of the problems that seriously affect our daily lives. There is no question that the exercise of the right to vote on matters of public concern enlarges the sense of public responsibility. While in Colorado, visiting a friend who had formerly been a teacher in Kansas, she assured me that the average woman teacher in Colorado, where women have the full right of franchise, is as fully informed on all political matters as is the average man teacher in Kansas, while the average woman teacher in Kansas ranks below the man in this respect.

We need the ballot for the purpose of self-protection. Last Saturday afternoon at the closing hour at Marshall Field's, in Chicago, a young woman fell to the floor in a dead faint and was carried away by her fellow workers. Long hours of the rush and strain of the Saturday shopping had overcome her. The 10-hour law is not a 10-hour law for us. We must be up at 6 in order to be at work by 8. It requires two hours after work for us to reach home and eat our evening meal. Fourteen hours out of the 24 are consumed entirely by our daily efforts to make a living. If we secure any education or amusement it leaves us but 7 or 8 hours for sleep, and this generally in insanitary and unwholesome surroundings.

Does the young woman cashier in Marshall Fields' need any voice in making the law that sets the hours of labor that shall constitute a day's work?

In the Boston Store, at the same hour, a delicate slip of a girl employed as an inspector was on the verge of a hysterical breakdown. The floor woman, in all kindness, said to her: "My dear, it is useless to feel like this. The busy season is just beginning, and you will have to stand it." Receiving a wage of $4.50 a week, has this girl any need of a voice in demanding a minimum wage law?

Has the young woman whose scalp was torn from her head at the Lawrence mill any need of the right to participate in the demand that safety appliances be placed upon all dangerous machinery?

What of the working girls, who through unemployment are no longer permitted to sell the labor of their hands and are forced to sell their virtue?

I met Katie Malloy under peculiar circumstances. It was because of this that she told me of her terrible struggles during the great garment workers' strike in Chicago. She had worked at Hart-Schaffner & Marx for five years and had saved $30. It was soon gone. She hunted for work, applied at the Young Woman's Christian Association and was told that so many hundreds of girls were out of work that they could not possibly do anything for her. She walked the streets day after day without success. For three days she had almost nothing to eat. "Oh," she said, with the tears streaming down her cheeks, "there is always some place where a man can crowd in and keep decent, but for us girls there is no place, no place but one, and it is thrown open to us day and night. Hundreds of girls—girls that worked by me in the shop—have gone into houses of—houses of— impurity."

Has Katie Malloy and the 5,000 working girls who are forced into lives of shame each month no need of a voice in a Government that should protect them from this worse than death?

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THE WORKING WOMAN AND THE WORKING MAN.

From the standpoint of wages received, it is almost universal that women receive only about half the wages paid to men, although doing the same work.

We working women work side by side with our brothers. We are children of the same parents, reared in the same homes, educated in the same schools, ride to and fro on the same early morning and late evening cars, work together the same number of hours in the same shops. We have equal need of food, clothing, and shelter. But at 21 years of age our brothers are given a powerful weapon for self-defense, a larger means for growth and self-expression.

We working women, even because we are women and find our sex not a source of strength but a source of weakness and offering a greater opportunity for exploitation, have even greater need of this weapon which is denied to us.

Gentlemen of the committee, is there any justice underlying such a condition?

THE WORKING GIRL *v.* HER EMPLOYER.

But what of the working girl and her employer? Why is the ballot given to him while it is denied to us? Is it for the protection of his property that he may have a voice in the governing of his wealth, of his stocks and bonds and merchandise?

The wealth of the working woman is far more precious to the welfare of the State. From nature's raw products the working class can readily replace all of the material wealth owned by the employing class, but the wealth of the working woman is the wealth of flesh and blood, of all her physical, mental, and spiritual powers. It is the wealth not only of to-day, but that of future generations that is being bartered away so cheaply. Have we no right to a voice in the disposal of our wealth, the greatest wealth that the world possesses, the priceless wealth of its womanhood?

Is it not the cruelest injustice that the man whose material wealth is a source of strength and protection to him, and of power over us, should be given the additional advantage of an even greater weapon which he can use to perpetuate our condition of helpless subjection?

DISFRANCHISEMENT LEADS TO DISCRIMINATION.

You say the ballot is not a factor as a means of discrimination between the working man and the working woman. We found a most striking example of the falsity of this statement a few years ago in Chicago. The Chicago teachers, firemen, and policemen had had their salaries cut because of the poverty of the city. The teachers' salaries were cut the third time. They organized to investigate the reason for the reduction. Margaret Haley was selected to carry on the investigation. As a result she unearthed the fact that large corporations were not paying the legal amount of taxes. The teachers forced the issue, and through their efforts in July, 1902, $597,033 in back taxes on the franchises of five public utility corporations, was turned in to the public treasury, and a few months later an additional $600,000 taxes on these franchises was paid.

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What was done with it? The policemen and firemen had the cut in their salaries restored, while the teachers did not. Instead, the finance committee recommended and the board of education appropriated the teachers' share to pay coal bills, repairs, etc.

Why was this? It was a clear case of the usual treatment accorded to a disfranchised class.

INDUSTRIAL REVOLUTION AND POLITICAL EVOLUTION.

However, Mr. Chairman, as students of sociology, we are forced to recognize the fact that the ballot has never yet been granted by a ruling class because of the needs of a serving class.

Almost without exception the extension of the franchise has taken place only when the needs of the industrial development have demanded a larger degree of freedon upon the part of the serving class; so that the serving class, driven by the very pressure of economic need, has organized as a class, and after a struggle has wrested from the grasp of the ruling class a larger share in the powers of government.

Instance after instance of the truth of this assertion presents itself. At the breaking up of the feudal system, the peasants in large numbers left the estates of their masters and entered upon the new form of industry made possible through manufacturing. To escape the robbery of the nobility they organized in guilds. This organization was a necessity not only for their protection, but also for the better development of their new form of industry. A larger freedom upon the part of the members of the guild was the inevitable outcome of the change in the industrial basis. As a result of the struggle the members of the guilds forced the nobility to relinquish their exorbitant demands and free towns came into existence. This extension of political liberty came as the direct result of the revolution that had taken place in the industrial life of a large number of the peasants of that day.

When the industrial basis of any society, or any large portion of society changes, the superstructure must change in accordance with it. This was again proved when the transition from the hand tool to machine production took place. Again it resulted in an extension of the franchise to a still larger portion of the working class.

CHANGE IN INDUSTRIAL BASIS NECESSITATES CORRESPONDING CHANGE IN POLITICAL STATUS OF WOMEN.

It is this same revolution that has taken place in the life of the working woman. Within the last two generations the women of the working class have been forced from their homes into the industries.

The weaving that we used to do with our hand loom is now done in great factories requiring the services of hundreds of thousands of women and children. The meat that we used to cure in the smokehouse is now prepared in gigantic meat-packing establishments. Our butter is made at the creamery and our bread at the bakery. Even the education of our children is placed in the hands of the kindergarten and the public schools. There has been nothing for us to do but to follow our jobs into the great industrial centers. His-

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tory has proved that industrial revolutions are inevitably followed by political and social revolutions.

The industrial basis of the life of the woman has changed. The political supersturcture must be adjusted to conform to this change. This industrial change has given to woman a larger horizon, a greater freedom of action in the industrial world. Greater freedom and larger expression are at hand for her in the political life.

Mr. Chairman and gentlemen of the committee, the time is ripe for the extension of the franchise to women. We do not come before you to beg of you the granting of any favor. We present to you a glorious opportunity to place yourselves abreast of the current of this great evolutionary movement. You can refuse to accept this opportunity, and you may for a moment delay its advance. But in effect it will be only as that of the old woman who, with her tiny broom endeavored to sweep back the incoming tide from the sea. If you desire to take the broad, progressive attitude, you will support the suffrage amendment now before your committee.

Miss ADDAMS. There are being organized all over the country leagues of men who devote themselves to the advancement of equal suffrage. It is a very great pleasure for us to have them associated with us. We have a representative here to-day of one of the leagues, Mr. James L. Laidlaw, of New York.

REMARKS OF MR. JAMES L. LAIDLAW, OF NEW YORK, N. Y.

The CHAIRMAN. We will be pleased to hear from Mr. Laidlaw. Will you give your name and address to the reporter?

Mr. LAIDLAW. My name is James L. Laidlaw, of New York City, N. Y.

Miss Addams, Mr. Chairman, and gentlemen, I have been asked to come before you to-day to represent the Men's League for Woman Suffrage. We have an organization in New York which is increasing very rapidly in numbers. There are organizations of the league in nearly all of the principal cities in this country. The membership now numbers in the thousands, and we expect soon to have it number in the hundreds of thousands. We believe this is the leading political question of the day, and that the time is now ripe for taking it in hand.

There are nearly a million and a half women who will have the full franchise this fall, and who will vote for the President of the United States. It has been said that women do not want it. I believe, and we men of the league believe, that if only one woman in the country wants it, she should have it. If there is one intelligent woman who is ready to vote she should have the right, and should not have to wait for a majority of women to express a desire for it.

As to women not voting when they have the franchise, there is no foundation in fact for this assertion. Take the State of Colorado, for instance. In Denver, where the records are kept, it is shown that more women than men, in proportion to the total registration, vote in the elections. In the recent election in Los Angeles the proportion of women voting was considerably larger than that of men. When women are aroused on a moral question they are

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found working together enthusiastically with the best men for the good of the community. This is what we would expect of women, but it is not merely theoretical, as has been exemplified in Seattle, Tacoma, Denver, and many other places.

As to the reason for submitting this question to Congress, while we realize that the enfranchisement of women may be accomplished through State legislatures and the vote of the electors, we feel that equal suffrage is of such paramount importance that we should take every step possible to further the attainment of it.

If we let women mix in the affairs of the world, we immediately arouse a desire for self-expression and self-protection. About a hundred years ago when the question of full manhood suffrage was under consideration women had no property rights. They had not even the right to the custody of their own children. They were not admitted to the public schools; nowhere did they receive more than a very insufficient education. In some States that is now changed. In our State of New York, for instance, women are permitted to hold property, and their proportion of the holdings of real estate and securities is a large percentage of the total. Moreover, girls now receive a free school education.

Why should we give women the right to hold property, why should we give them the right to an education and refuse them the right to protect their interests or the right to express themselves politically? That question is being asked to-day all over the world. This is a women's era; the women in Europe and in Asia are working for the ballot just as they are in this country, and believe me, the women of China—think of China showing us the way—the women of China appear to be nearer gaining the franchise than the women of this country. It seems a disgrace that we, the people of the United States, who vauntingly use the terms liberty, equality, democracy, should permit one country after another, oriental and European, to show us the way to a true civilization.

Miss ADDAMS. Mrs. Phillips desires to make a short reply.

The CHAIRMAN. We will be very glad to hear from her.

REMARKS OF MRS. ELSIE COLE PHILLIPS, OF MILWAUKEE, WIS.

Mrs. PHILLIPS. Mr. Chairman, I would like to speak just a moment again on the point in regard to the increase of the ignorant vote.

I think that a body of men such as you are, of wide experience and a habit of reflecting upon that experience, will recognize readily that intelligence and education are not necessarily synonymous, that book knowledge, knowledge that comes from school and college, may not make one wise in the practical problems of life, and that on the other hand, in dealing with these practical problems, one may gain a practical wisdom which is of great value.

Mrs. Nathan, the president of the Consumers' League in New York City, and a very ardent suffragist, as a matter of course, was in one of the large stores shopping, and being also an ardent propagandist, while she was waiting for her change she said to the clerk waiting on her, "By the way, are you interested in the suffrage?" And the girl replied indifferently, "Oh, not very much." And Mrs. Nathan said, "That is very strange to me. You ought to realize what it would mean to you to have a political expression for your needs,

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needs that no one but yourself can understand." The girl said, "Oh, yes; of course, that is true. All of us girls know what we need. We would vote all right; the working girls would vote all right, but it just appalls me to think of letting in that ignorant Fifth Avenue vote." [Laughter.]

May I just add that I am glad that you think that is funny, and that I hope you appreciate the very funniest part of it, which is that it is true. From her point of view, these women were intensely ignorant. And I am willing to go on record as predicting that the only completely ignorant vote that will be admitted when this amendment is adopted will be the vote of those women who, because they are women of leisure, of no responsibilities, who know nothing of the pressure and burden of life, are ignorant, and the greatest kindness we can do to them, for the sake of their development, is to put into their hands this instrument of education for themselves.

Mr. LITTLETON. May I ask you a question?

Mrs. PHILLIPS. Certainly.

Mr. LITTLETON. Can you tell me what percentage of women who favor woman suffrage also favor socialism?

Mrs. PHILLIPS. No; I do not think I can. I could tell you exactly what percentage of socialists favor woman suffrage.

Mr. LITTLETON. I am more interested in the question the other way around.

Mrs. PHILLIPS. I should say, of the women who are active in the suffrage movement, only a very small percentage are active as socialists.

Mr. HIGGINS. Whether they are active socialists or not, do they accept the doctrines of the Socialist Party?

Mrs. PHILLIPS. No; I should say that is my one criticism of them.

Miss ADDAMS. I think, perhaps, of the people who have spoken today, perhaps only two or three are members of the Socialist Party. I think the parties are very evenly distributed.

Miss BRÉHAUT. Mr. Chairman, may I say just a word or two?

The CHAIRMAN. This chairman never was able to stop any woman from speaking.

REMARKS OF MISS ELLA C. BRÉHAUT, MEMBER EXECUTIVE COMMITTEE, DISTRICT OF COLUMBIA ASSOCIATION OPPOSED TO WOMAN SUFFRAGE.

Miss BRÉHAUT. The official figures show there were 52,000 Socialist votes cast in the Los Angeles election, and it is the opinion—the New York Call, the Socialist paper, asserts that it is pretty positive that 31,000 of the Socialists' votes were women's votes, and only 21,000 were votes of men.

Mr. STERLING. May I ask you a question?

Miss BRÉHAUT. Yes, sir.

Mr. STERLING. What is the name of the association for which you speak?

Miss BRÉHAUT. The National Association Opposed to Woman Suffrage.

Mr. STERLING. Where are its headquarters?

Miss BRÉHAUT. New York City.

Mr. STERLING. Is it organized in all of the States?

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Miss BRÉHAUT. It is rapidly being organized. The national association was organized only last November. Auxiliaries are being organized rapidly in the various States. In the States in which there are woman-suffrage organizations they have been organized at least 25 years.

Mr. STERLING. It is a new organization?

Miss BRÉHAUT. This is the only national organization which has now been established.

Mr. STERLING. What is its membership now?

Miss BRÉHAUT. I really do not know. It is too new for us to know the figures.

Mr. STERLING. Is there anyone here who can give it?

Mrs. KINGSBURY WATTERMAN. In Massachusetts the membership is 17,000.

Miss BRÉHAUT. We admit and deplore the fact that women as well as men do not always receive adequate protection while engaged in labor. I understand, however, that 10 States have passed workmen's compensation laws during the past year, and that in nearly all the other States such laws are proposed, are being prepared, or are in course of passage. Could one expect greater progress than this?

The industrial exploitation of children referred to is a reason for shame in those States where it is permitted. The ultimate welfare of children in some States may perhaps depend on a children's bureau. The Senate has passed the Children's Bureau bill, and we fully expect that the House will take similar action. We do not accuse you gentlemen of not understanding that the life blood of a nation depends on the welfare of its children.

The model child labor law proposed by the national child labor committee contains 49 sections, and the following figures show the number of these provisions already enacted in the woman suffrage States and those of similar conditions and location: Of the 49 provisions, we find the law of Wyoming contains none; Idaho contains none; Colorado contains 7; Utah, 8; California, 12; Oregon, 14; Oklahoma, 15; North Dakota, 15; Minnesota, 20; Nebraska, 25; Wisconsin, 27. It is obvious that the man-suffrage States have the best child-labor laws and that the education of public opinion has more to do with the passage of good laws than women's votes.

Because of the value of woman's particular function to society and because of her physical limitations public opinion demands a limit to the hours of labor for women in industry. In 31 States laws have been passed limiting the number of hours of labor in which wage-earning women may be employed. Does any suffragist claim that these laws materialized through women's votes? They take away a woman's right to work as long as she will and help us to forget the evil day when she was permitted to ruin her health by competing with men. In many occupations woman should be willing to do a smaller stint of work and receive a proportionate wage. It is better for her health and the health of future generations to have it so.

It has been claimed here to-day that low wages, speeding, etc., would be cured by votes, though it has been proved over and over again that the vote does not control economic conditions. The law of supply and demand, modified by the demands of organized labor, controls wages. Men everywhere improve their condition by unions

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and collective bargaining, and if they demand and obtain an uneconomic wage the industry is soon impaired and wages again adjust themselves.

Many women receive equal pay for equal work, and when they receive lower wages than men it is not because they are without votes, but because they are women, with physical and mental limitations which can not be legislated out of existence.

Women's limitations are natural and not to her discredit. According to the Pittsburgh Survey she is often prevented by inferior strength from competing for the best positions. This publication gives the following facts: Of the 22,185 women employed in Pittsburgh, only 3 per cent possess a handicraft or are engaged in skilled work. Most of the occupations of women in that city require neither training nor stability nor intelligence. Skill and judgment and the relation of one machine to another can not be learned in three or six months, and there is no apparent utility in training a woman to a knowledge of several processes when she hopes to end her factory or shop employment in six or eight years and has a consequent lack of ambition. Together these facts produce an unbusinesslike attitude, a conscious instability. For this reason women are undesirable apprentices. They can be employed profitably only at such occupations as are quickly learned. Their opportunities for employment are, with one exception, still further circumscribed by the opposition of men's unions, and the unions that bar women are those of skilled workers; and this is true in spite of the fact that the American Federation of Labor stands for woman suffrage. Her lack of physical strength, the opposition of men's unions, and her industrial instability combine to leave women the subsidiary processes and the mechanical operations which demand little intelligence. Expectation of marriage lessens her ambition, and this lack of ambition can have no other effect than to limit efficiency.

Naturally, the subsidiary processes are stultifying, slipping a hinge into place, filling pickle bottles, packing crackers, fruit and candy, stitching seams in ready-made garments, etc. Women's trade-unions and trade training are now considered the remedy for these undesirable conditions; but even when they become general, they will not alter the natural limitations of women, both mental and physical. With trade training her neuro-muscular exhaustibility will be less apparent, and the result may be a lengthening of her trade life, but she will still desire and expect to marry. It is hoped by a number of intelligent men and women that trade training will materalize long before votes for women, and that this trade training will be a part of the public-school system or given in cooperation with boards of education. Public education, gentlemen, is not a function of the National Government, and we do not look to you to solve these economic problems.

The proposed Commission on Industrial Relations would help to do so, and the newspapers state that a canvass of the Members of Congress shows almost unanimous approval of this measure, and that it is becoming a common plank in the platform of all presidential candidates. Woman's influence has been potent in this matter, and the need of her vote is not apparent.

A better distribution of immigrants in small groups to those localities where they are needed and can be Americanized would also seem

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to be a function of the National Government, and would certainly do more to prevent an oversupply of labor in the great centers of population than women's votes. We believe, gentlemen, that with this end in view you will properly support the work of the Division of Information of the Bureau of Immigration.

The implication by Mrs. Penfield that connection with the Consumers' League connotes a belief in woman suffrage has no foundation in fact. I am myself a member of the Consumers' League and point to its effective work as a proof of the power of women's organizations unhampered by partisan politics.

Mrs. Penfield makes the extraordinary statement that women's votes are needed in order that pure food may be guaranteed. Public opinion regarding pure food has been formed, and adequate laws are embodied in our statutes, and the selling of sandwiches in the streets by suffragists conducting a cart-tail campaign does not add to the constructive thought regarding the enforcement of pure food laws. The work of the board of health in Mrs. Penfield's city is well organized and very efficient. The suffragist would undoubtedly bring a frenzied activity into such work if she had control, but we have no proof that it would be superior in any way to that of the New York board of health.

Women can do vastly more for the health of their families by learning to cook. We are a nation of dyspeptics, and it is a common thing for a young wife to begin housekeeping with no knowledge of the culinary art. The only hope for the health of the nation is through a better and more general knowledge regarding the choice and preparation of food. When mothers realize that daughters should be taught plain cooking no matter what other vocation they seek to follow, we shall cease to be ill by reason of improperly cooked food, and stomach specialists will cease to wax rich. Women's votes are no more necessary toward this result than they were in a vindication of the chief chemist of the Department of Agriculture.

The most emphasized reason given to-day is that woman suffrage is right. No measure of government is right unless it be for the greatest good of the greatest number. As a political unit, would the average woman do better than the average man? If not, there can be no possible reason for compelling her to assume the responsibilities that the ballot imposes. If she failed to do much better, the added vote would be only an extra expense without corresponding gain.

Would a taxpayer's wife be sufficiently interested in the welfare of women teachers to vote for men pledged to raise their pay at a greatly increased cost to the community? Would a working woman consider anything but her own convenience and comfort in voting on a subway bond issue? Would a Congressman's wife be over critical of her husband's legislative acts or of his party? Would women generally be interested in the good of the greatest number, and, if so, would this interest lead to a large attendance at primary elections and an intelligent consideration of the relative merits of candidates for nomination? We claim that this would not result. Average women, on attaining the ballot, might for several years be on their mettle, but their interest in politics would very naturally be spasmodic and not to be counted on. Prof. Jensen says of Utah women that "their interest in politics is passive rather than active." There

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are thousands of women who are interested in politics, but millions who are not.

This mental attitude toward politics is perfectly natural. Should the majority of women appreciate the privilege of voting, and gain the familiarity with affairs that would make it intelligent, they would certainly be deprived of time that is necessary for recreation and physical upbuilding. Even without the burden of politics, the woman of the majority (the married woman without a servant) does not generally devote enough time to this purpose. She is too often engaged in a needless struggle to rival her friends and neighbors in the appointments of her house and the clothing of her family. A hand-embroidered centerpiece or shirtwaist is not sacrificed to rest, and these would not be given up for an improving book or a dissertation on political issues. Over-tired nervous women do not make for the betterment of the race, and manifold functions do not, except where circumstances are very favorable, result in well-balanced natures.

And the women who demand this full life for all women are not sincere. The full life, supposed to be consequent on entrance into politics, is only desired by a small minority of middle-class women, mostly college and professional women, who see in political position a release from the strain of competitive life. One leader, the Rev. Anna Shaw, has expressed a desire to be United States Senator. This desire for office has been expressed to-day before your honorable committee. We submit, gentlemen, that one can hardly pick up a newspaper without reading of the appointment or election of some specially qualified woman to office in States where only men vote. The men of Cincinnati recently elected a very efficient woman, and another in the same city has since been appointed to an important place, and without women's votes. We do not desire that women should be appointed or elected because they are women, but only when they can demonstrate peculiar fitness. These college and professional women are making good from year to year, and new avenues of usefulness are being opened up to them. Practically all industries and professions and many elective and appointive places in municipal and State government are open to women. The greatest good to the greatest number makes it inexpedient that the whole realm of politics should be theirs.

Miss Addams states that the foreign vote of Chicago would not be doubled by woman suffrage, and refers to the large number of Greeks and Slavs in that city who have no women folk. I accept her statement, but would say that the birth rate among the foreign born in this country is three times as large as that among native-born Americans. The foreign born and their children constituted in 1900, 48 per cent of the total population of the country, and much more than half the white population of the Northern States, reaching 79 per cent in New York and Chicago. An official of the marriage-license department of Chicago says that 75 per cent of the licenses issued by his department are to Poles, Slavs, and Lithuanians, and these three nationalities are furnishing the majority of the big families of Chicago. If the Greeks and Slavs mentioned by Miss Addams were also married the per cent would be still higher.

These nationalities and the Italians largely constitute our present immigration. According to Dr. Sidney D. Wilgus, chairman of the

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committee on immigration of the New York State Lunacy Commission, one out of every four immigrants is found to be an undesirable. He says:

> We can not hope for a desirable race from these immigrants now coming to our shores. Some of them are so low in the scale of humanity, like the Macedonians and the Slavs from the Carpathian Range, that they do not know their own names. They forget the names of the towns they came from, or they do not even know the days of the week or the months of the year.

In the city of New York there are only 921,318 people out of 5,000,000 whose parents were native Americans.

Though Miss Addams does not fear the foreign-woman vote in Chicago she can, perhaps, sympathize with those States having a high percentage of illiteracy mostly in the native born, white and black. The illiteracy in men of voting age reaches 37 per cent in one State, and we can not believe that the wives of these men would be desirable voters. I don't agree with Miss Addams that education is not a necessary qualification in voters. The men and women of high ideals who have accomplished much for children would be hampered rather than helped by the votes of ignorant mothers. Mr. Lovejoy, of the National Child Labor Committee, says that "the effort to secure protection for children in this country is a desperate fight against the forces of ignorance and self-interest." The ignorant as well as the self-interested have women folk. In a Government report of the glass industry is described a study of 864 families to determine the cause of child labor. It was found that in no more than 36 per cent was economic necessity the primary motive for sending children under 14 to work in a glass factory. The tenement-house mother is so ignorant of the rights of childhood that she will hide her young daughter from the inspector that the child may continue to ruin her eyes and health by knotting willow plumes.

With reference to the alliance of the suffragists with the socialists "for convenience" and not on principle, I submit that socialistic principles are now taught by the woman-suffrage leaders, particularly the economic independence of all married women, and the State nurseries that would in such case be necessary, involving the general loosening of marriage and family ties that naturally follows with the shifting of responsibility from the individual to the State.

Miss Ashley, the treasurer of the National Woman Suffrage Association, has frequently written the weekly headquarters letters in the Woman's Journal (their national organ). In the issue of June 24, 1911, she said:

> Is there a common camp from which we can all march to demand the ballot? We who believe in the power and the destiny of the working class know that no possible common ground exists when the exercise of the ballot is an issue; the workingman, jammed like the girls into the subway trains, should not vote as does the owner of the subway train, nor should the fluttering girls vote as would the handsome ladies. Upon this point there can be no room for doubt.

I wrote to Miss Ashley for an explanation of this paragraph, and she proceeded in a letter to present her ideal of sex and class antagonism, as follows:

> What I mean is this: When once women have the right to vote there will be no possibility that all women, or even a large part of them, will vote alike; they will not be able to unite because their class interests will be stronger than sex interests. The rich and the poor must see things through different glasses. But the point I want to bring out is that until we have the ballot the

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interest of all women is to get it, rich and poor alike. Therefore, can't we unite and work for it, since a united front would be so strong? And the question is, how can we get the working girls to come into our camp and fight together for the ballot? For instance, take an election. * * * Let there be made a clear-cut issue between those candidates for the legislature who stand for suffrage and those who don't. Let the list be in the hand of every suffragist; then let every suffragist determine to defeat, wherever possible, any candidate who is against suffrage, no matter of what party, no matter what else he may stand for. He may promise great things for the working people; no matter, let the working woman work to defeat him. He may stand for all good things for property owners; no matter, let the rich woman work to defeat him. Let there be but one war cry—suffrage.

The other question, as to what I mean by the destiny of the working class, is simpler, because it is a definite theory that before long the working class will be the class in power; that the workers are the only people worth while; they will survive and will take possession of the world and of the wealth they produce; that they will be the only class, and everyone must be of it to live at all. The aristocracy is gone; the middle class now rules; the working class will rule. All history shows this plan gradually working out. This is a distinct destiny in which all socialists and many others believe. In other words, we recognize that there are classes; that there is a class struggle, and this is bound to be ended by the victory of the working class.

Miss Ashley carries on her socialist propaganda in the Woman's Journal of June 3. She states that "our cities swarm with outraged, degraded, unfree women" and advises her readers to study the facts of social conditions "with an open mind," and especially recommends August Bebel's book on "Woman." This book is a translation from the German; and besides describing conditions that have never obtained in this country, it preaches the most radical socialist doctrines. I quote the following from one chapter called "Woman in the future":

In the choice of love she is just as free as man is free. She woos and is wooed and has no other inducement to bind herself than her own free will. The contract between two lovers is of a private nature, as in primitive times, without the intervention of any functionary, but it is distinguished from the primitive contract by the fact that the woman no longer becomes the slave of a man who obtained her as a gift or by purchase, and can cast her off at his pleasure. Human beings must be in a position to act as freely, where their strongest impulse is concerned, as in the case of any other natural instinct. * * * No one has to give an account of himself or herself, and no third person has the slightest right of intervention.

To enforce his views, August Bebel quotes a woman writer as follows:

We all read without the slightest moral indignation, for instance, how Goethe again and again wasted the warmth of his heart and the enthusiasm of his great soul on one woman after another. Every reasonable person regards this as perfectly natural, precisely because a great soul is difficult to satisfy, and only the narrow-minded moralist stops to blame him. But why, then, do you ridicule the great souls among women? Let us suppose that every woman were * * * a Lucretia Floriani; that all her children were children of love, but that those children were all brought up with true motherly devotion as well as with intelligence and good sense. * * * Doubtless the world would go on as before and progress as before.

These quotations speak for themselves. Conservative women, gentlemen, see nothing but danger in woman suffrage. If given the ballot, patriotism would compel all right-minded women to vote. Men are nowhere excused from taking up the responsibility laid upon them by the State.

As for the veiled threat of Mrs. Harper, that if peaceful means fail, another sort will be employed, I entreat you not to worry. The

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State militias will be quite sufficient to protect persons and property, and there will be no necessity for an increase in the Regular Army.

The CHAIRMAN. Do you know what the membership of the suffragists' organization is in that State?

Mrs. WATTERMAN. No; I can not tell you, but I believe it is 28,000.

Mrs. LAIDLAW. The membership in the Woman Suffrage Party in New York City alone is 50,000. [Applause.]

Mrs. WATTERMAN. The Woman Suffrage organization has been in existence for 60 years; we began only a few months ago.

Mr. HIGGINS. Have you organizations in most of the States?

Mrs. WATTERMAN. Most of them.

Mrs. LAIDLAW. When the 17,000 Massachusetts suffrage people are spoken of, I understand that is the total count through all these years, and that a person is in perpetuity a member of that organization, dead or alive. The Woman Suffrage Party of New York City, which is beginning to work along political lines, has on its enrolled membership 50,000.

Mrs. WATTERMAN. Mrs. Laidlaw is wrong about that. That Massachusetts membership does not include everybody who has ever been a member.

Mr. HIGGINS. Does your society regard this as a great evil?

Mrs. WATTERMAN. Yes, sir.

Mr. STERLING. Have you an organization in Illinois?

Mrs. WATTERMAN. Yes, sir; Mrs. Corbett is president.

The CHAIRMAN. I hope this has not disturbed you, Miss Addams.

Miss ADDAMS. No; not at all. We are anxious to have questions asked.

The CHAIRMAN. It is very sweet of you to say that.

Miss ADDAMS. There are two requests we would like to make. One is that as many copies as possible of this report shall be printed in order that they may be used throughout the country. We will say 10,000; if that sounds greedy we will say less.

Then, it has also been suggested that we pray your honorable body, if you feel it germane to be voted upon now, that some sort of a commission—it seems to be the age of governmental commissions—that some sort of a commission be appointed by the House to look into the question of woman suffrage, the possible demand for it in the various States, and the success it has gained in other States.

Miss BRÉHAUT. I will say we took the figures in regard to the Socialists from the Woman's Journal, the organ of the National Woman Suffrage Association, which quoted the New York Call as giving the Socialist vote—the Socialist women's vote as 31,000, and the Socialist men's vote as 21,000.

Miss ADDAMS. We are very happy indeed to have the Socialists with us. We are very proud of the work of the Socialist women. But, to make my point that women of other parties are also suffragists, I would like to say that in California, where women vote, the mayor of Berkeley is a Socialist; that in Wisconsin, where women do not vote, the mayor of Milwaukee is a Socialist. I think you will find the women divided through all the political parties.

The CHAIRMAN. I had the pleasure of serving in Congress with Gov. Shafroth, who is a Democrat, and I think women had a good deal to do with his election.

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Mr. LITTLETON. I asked the question because I have noticed during the last two years the identity of suffrage and socialism, and I may say frankly it is the first time the objection has ever appeared serious.

Mrs. HARPER. I want to remind Mr. Littleton that the Socialist Party is the only party which declares for woman suffrage and thereby gives women an opportunity to come out and stand by it, and that is why there seems to be a preponderance of Socialist women. The Democratic and Republican Parties do not stand for woman suffrage, and that is why there seems to be more Socialist women than Republican or Democratic women. If the two old parties will come out for woman suffrage, then the women will show their colors.

Mr. LITTLETON. I have not taken it on that ground. I understand how you would lean on either party, and there is no fault to be found with that, because that is what everybody does. I spoke merely of the literature of your leading women. I have had occasion to examine the utterances of your leading women on what they call social justice, and I also refer to the Columbus speech of Mr. Roosevelt which you quoted, and I hope you will not ask me to accept his doctrine of constitutional government.

Mrs. HARPER. Just as far as I quoted it I will.

Mr. STERLING. May I understand this position? The Socialist is for woman suffrage, as a rule; that is true, is it not?

Mrs. HARPER. It is part of their platform.

Mr. STERLING. A woman suffragist is not necessarily a Socialist.

The CHAIRMAN. The Chair thinks it would be proper at any time to entertain in the form of a motion the suggestion Miss Addams made as to the printing of 10,000 copies of the hearing. The other question that she suggested, the committee would probably wish to take under advisement in executive session. The committee has heretofore acceded to the first request in open session.

Mr. LITTLETON. I move that the request for 10,000 copies be granted.

The CHAIRMAN. The committee has leave of the House—I believe it is limited to 2,000. I will put the motion, that the committee print as many copies of the hearings as is allowed under the rules, and that the chairman of the committee request the House to print enough copies of the hearing, so that the whole number of copies printed shall reach 10,000.

The motion was agreed to.

The CHAIRMAN. I will say that the chairman of the committee will allow you the use of his frank, so that you may frank the copies of the hearings as a public document. Of course, you understand that under that frank nothing but this hearing can go; no personal letters.

Miss ADDAMS. May we assure you, Mr. Chairman, of our conviction that you have all been most open-minded in this hearing. May I close with a story illustrating that women, traditionally, because they have had to do so many little things, have developed the power of getting at a thing very promptly. That trait might be useful in government. A little play the other day was written by some set-

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tlement boys, who did not speak English very well. They were writing a patriotic play, and the first act showed two Revolutionary soldiers on watch; one soldier said to the other, "Say, ain't it fierce, we ain't got no flag for this Revolution!" and the other soldier said, "Ain't it fierce!" and that was the end of the first act. The dramatic personnel of the second act were George Washington and a Revolutionary officer, and the officer said, "Ain't it fierce we ain't got no flag for this Revolution!" and Gen. Washington said, "Ain't it fierce!" and that was the end of the second act.

The third act showed George Washington calling upon Betsy Ross, the latter in a domestic setting, rocking a baby. George said, "Betsy, ain't it fierce we ain't got no flag for this Revolution!" and Betsy Ross said, "Yes; ain't it fierce. Hold the baby and I will make one." [Laughter.]

These boys were not suffragists, and had but the limited opportunity of life in a settlement neighborhood. We hope that direct action will result when women have the suffrage.

The CHAIRMAN. If there are no other ladies who wish to be heard, in behalf of the committee permit me to thank you, Miss Addams, and your associates, and also the ladies who appeared on the other side, for your presence to-day, and for the very interesting and edifying facts so well expressed by you to the committee. We express our warm appreciation, and we beg to assure you we will take your suggestion under consideration in executive session.

Thereupon, at 12.55 o'clock p. m., the committee adjourned.

The following letter was received by the Committee on the Judiciary, with the request that certain clippings and statements be printed as part of these hearings. The clippings, etc., against woman suffrage appear below.

WASHINGTON, D. C.

GENTLEMEN: In behalf of the many women whose household and wage-earning duties keep them from appearing before your honorable committee, I beg leave to submit a few of our reasons for hoping you will refuse to burden all women with a new and heavy obligation at the request of an exceptional few.

Yours, respectfully,

JULIA T. WATERMAN.

SOME REASONS WHY WE OPPOSE VOTES FOR WOMEN.

[Northern California Association Opposed to Woman Suffrage.]

First of all, for the oldest and shortest of reasons:

Because man is man, and woman is woman. Nature has made their functions different, and no constitutional amendment can make them the same.

Because the basis of government is force—its stability rests upon its physical power to enforce its laws; therefore it is inexpedient to give the vote to women. Immunity from service in executing the law would make most women irresponsible voters.

Because the suffrage is not a question of right or of justice, but of policy and expediency; and if there is no question of right or of justice, there is no case for woman suffrage.

Because it is the demand of a minority of women, and the majority of women protest against it. Because it means simply doubling the vote, and especially the undesirable and corrupt vote of our large cities.

Because the great advance of women in the last century—moral, intellectual, and economic—has been made without the vote; which goes to prove that it is not needed for their further advancement along the same lines.

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Because women now stand outside of politics, and therefore are free to appeal to any party in matters of education, charity, and reform.

Because the ballot has not proved a cure-all for existing evils with men, and we find no reason to assume that it would be more effectual with women.

Because the woman suffrage movement is a backward step in the progress of civilization, in that it seeks to efface natural differentiation of function, and to produce identity, instead of division of labor.

Because in Colorado after a test of 17 years the results show no gain in public and political morals over male suffrage States, and the necessary increase in the cost of elections, which is already a huge burden upon the taxpayer, is unjustified.

Because our present duties fill up the whole measure of our time and ability, and are such as none but ourselves can perform. Our appreciation of their importance requires us to protest against all efforts to infringe upon our rights by imposing upon us those obligations which can not be separated from suffrage, but which, as we think, can not be performed by us without the sacrifice of the highest interests of our families and of society.

Because it is our fathers, brothers, husbands, and sons who represent us at the ballot box. Our fathers and our brothers love us; our husbands are our choice, and one with us; our sons are what we make them. We are content that they represent us in the cornfield, on the battlefield, and at the ballot box, and we them in the school room, at the fireside, and at the cradle, believing our representation even at the ballot box to be thus more full and impartial than it would be were the views of the few who wish suffrage adopted, contrary to the judgment of the many.

We do, therefore, respectfully protest against the proposed amendment to establish woman suffrage in our State. We believe that political equality will deprive us of special privileges hitherto accorded to us by law.

Our association has been formed for the purpose of conducting a purely educational campaign. If you are in sympathy with this aim and believe as we do in the righteousness of our cause will you not send your name to us and pass our appeal on to some one else?

NERVES IN POLITICS? OR NERVE?

[Issued by the Southern California Association Opposed to Woman Suffrage, 322 Exchange Building, Hill Street, Los Angeles.]

Women who assume the responsibility of suffrage must either add it to present duties or lay down those duties to take up this one.

The strain and emotionalism of politics—"which is war"—is a dangerous addition to the effect upon women of the physical strain and excitement of modern life, already deplored by physicians, both men and women, throughout the country.

The frequent low state of health among American women is a fact as undeniable as it is deplorable.

In this condition of things, what do certain women demand for the good of their sex? To add to the excitements that are wasting them, other and greater excitements, and to cares too much for their strength, other and greater cares.

When women generally vote and hold office, nervous prostration, desire for publicity, and "love of the limelight" will combine to produce a form of hysteria already increasing in the United States. Nerve seems to be more needed in politics than nerves, and Sylvia Pankhurst herself has declared that the minority demanding the suffrage "is striving for it knows not what."

OPINIONS OF EMINENT PERSONS AGAINST WOMAN SUFFRAGE.

Daniel Webster: "The rough contests of the political world are not suited to the dignity and the delicacy of your sex. * * * It is by the promulgation of sound morals in the community, and more especially by the training and instruction of the young, that woman performs her part toward the preservation of a free government."

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Rev. Horace Bushnell, D. D.: "Hitherto it has been an advantage to be going into battle in our suffrages with a full half * * * as a corps of reserve left behind, so that we may fall back on this quiet element * * * and settle again our mental and moral equilibrium. Now it is proposed that we have no reserve any longer; that we go into our conflicts taking our women with us, all to be kept heating in the same fire for weeks or months together. * * * Let no man imagine. * * * that our women are going into these encounters to be just as quiet or as little moved as now, when they stay in the rear unexcited, letting us come back to them often and recover our reason. They are no more mitigators now, but instigators rather, sweltering in the same fierce heats and commotions, only more tempestuously stirred than we." (Woman's Suffrage; the Reform against Nature.)

Francis Parkman: "It has been claimed as a right that woman should vote. It is no right, but a wrong, that a small number of women should impose on all the rest political duties which there is no call for their assuming, which they do not want to assume, and which, if duly discharged, would be a cruel and intolerable burden."

Mrs. Clara T. Leonard, Massachusetts Board of Health, Lunacy, and Charity: "The best work that a woman can do for the purifying of politics is by her influence over men, by the wise training of her children, by her intelligent, unselfish counsel to husband, brother, or friend, by a thorough knowledge and discussion of the needs of her community."

Rev. Edward Everett Hale, D. D.: "I am now asked to confer the responsibility of suffrage upon women. This means, of course, that they are willing to accept all the responsibilities of public-spirited men. To which request I reply that I do not think they want to do these things, and, second, that I do not think they would do them well."

Le Baron R. Briggs, president of Radcliffe College: "As to public life, I am still so conservative as to hold that a political competition of both sexes is less likely to elevate men than to degrade women, and that the peculiar strength of refined and earnest womanhood is exercised in ways less public. I fear the loss of the best that is in woman, and with it the loss of a power that is hers and hers alone."

Jacob A. Riis: "I do not think the ballot will add to woman's real power which she exercises or can exercise now."

Carl Schurz: "Is it not certain that so tremendous an addition to the voting force as the granting of unqualified woman suffrage would effect, would involve at least the possibility of a dangerous increase of those evils which the best thought of the country is at present painfully struggling to remedy?"

Mrs. Kate Gannett Wells: "In the present constitution of events, of facts, physiological, social, moral, and political, it is inexpedient for government to grant universal female suffrage."

Cardinal Gibbons: "If woman enters politics, she will be sure to carry away on her some of the mud and dirt of political contact."

Hon. Moses Hallett, United States district judge for Colorado: "Our State has tried the female suffrage plan a sufficiently long time to form a fair idea of its workings. I am not prejudiced in any way, but honestly do not see where the experiment has proved of benefit. * * * It has produced no special reforms, and it has had no particular purifying effect upon politics. There is a growing tendency on the part of most of the better and more intelligent of the female voters of Colorado to cease exercising the ballot. * * * If it were to be done over again, the people of Colorado would defeat woman suffrage by an overwhelming majority."

Hon. Thomas F. Bayard, Secretary of State: "There never was a greater mistake, there never was a falser fact stated than that the women of America need any protection further than the love borne to them by their fellow countrymen. Do not imperil the advantages which they have; do not attempt in this hasty, ill-considered shallow way to interfere with the relations which are founded upon the laws of nature herself."

Miss Ida M. Tarbell: "The assumption that the improvement of woman's position depends upon the vote is quite as unsound as the charge of her inferiority * * * Woman proves her equality by doing the things for which she is fitted and which the world needs from her. * * * It is the gravest weakness of this country at present to ignore certain fundamental things; that life is not saved by politics but by principles; and that principles are not taught by votes and legislation but by precept and by practice."

Abram S. Hewitt: "After carefully considering all the arguments advanced by the advocates of woman suffrage * * * I do not think, from the organic

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difference between men and women, that it will ever be shown to be for the advantage of women that they should be forced to take part in political controversies. In fact, I think it would be a great misfortune to them as well as to the human race."

Hon. Charles J. Bonaparte: "The suffrage is not a mere privilege. It is a public burden, and when it is proposed to make your mothers and sisters and other ladies of whom, perhaps, you may sometimes think, share this burden, the question is properly not whether women should be allowed to vote, but whether they should be obliged to vote."

Prof. Edward D. Cope: "The first thing that strikes us in considering the woman suffrage movement is that it is a proposition to engage women once more in that 'struggle' from which civilization has enabled them in great measure to escape; and that its effect, if long continued and fairly tried, will be to check the development of woman as such, and to bring to bear on her influences of a kind different from those which have been hitherto active."

Miss Dorothea L. Dix: "Distinctly and emphatically, Miss Dix believed in woman's keeping herself aloof and apart from anything savoring of ordinary political action. * * * She must be the incarnation of a purely disinterested idea appealing to universal humanity, irrespective of party or sect." (Life of Dorothea Lynde Dix, by Francis Tiffany.)

Dr. S. Weir Mitchell: "The best of the higher evolution of mind will never be safely reached until the woman accepts the irrevocable decree which made her woman and not man. Something in between she can not be."

Richard H. Dana: "The truth is, the ballot for women is not needed * * * and if they were ever called upon to combine and work in antagonism to the men, which they must do if their vote is really needed, the evils of the conflict would strike at the very foundations of our social system."

Prof. William T. Sedgwick: "Why should the great majority of women, who, as everybody knows, are either indifferent or opposed to woman suffrage, be forced to accept it against their will when there is no sound evidence that any material good is likely to accrue either to themselves or to the State?"

Bishop John H. Vincent, founder of Chautauqua: "When about 30 years of age I accepted for a time the doctrine of woman suffrage, and publicly defended it. Years of wide and careful observation have convinced me that the demand for woman suffrage in America is without foundation in equity, and, if successful, must prove harmful to American society."

Miss Jeannette L. Gilder, founder of the Critic: "In politics I do not think that women have any place. Neither physically nor temperamentally are they strong enough for the fray. The life is too public, too wearing, and too unfitted to the nature of women. It is bad enough for men * * * and it would be worse for women. I believe not only that the ballot in the hands of women would be a calamity, but I believe that it would prove a boomerang."

John Boyle O'Reilly: "Woman suffrage would be the constitutional degradation of women; it would be an appeal to the coarser strength of men; and I profoundly believe that it would result in social disorder and disrespect of law."

Gail Hamilton (Miss Mary Abigail Dodge): "My earliest instinct and my latest judgment combine in maintaining that women have a right to claim exemption from political duty and responsibility, and that men have no right to lay the burden upon them. If the public work is ill done by men, the remedy is to do it better, not to shift the weight to shoulders already heavily laden, and whose task they do not propose in any respect to lighten."

Rev. James M. Buckley, D. D.: "Should the duty of governing in the State be imposed upon women, all the members of society will suffer. * * * The true woman needs no governing authority conferred upon her by law. In the present situation the highest evidence of respect that man can exhibit toward woman, and the noblest service he can perform for her, are to vote 'nay' to the proposition that would take from her the diadem of pearls, the talisman of faith, hope, and love, by which all other requests are won from men, and substitute for it the iron crown of authority."

Hon. Henry B. Brown, ex-justice of the Supreme Court of the United States: "It is a mistake to suppose that either men or women have a natural right to vote. We are bound to distinguish between natural and political rights. They may be said to have a natural right to protection in their persons, their property, and their opinions, but they have no natural right to govern or to participate in the government of others."

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Rev. Theodore L. Cuyler, D. D.: "There is full scope for woman's patience, power, purity, and prayers without attempting to override that divine arrangement which never fitted her to be a soldier, a sailor, a civil engineer, a juryman, a magistrate, a policeman, a politician."

Hon. Elihu Root, Secretary of State: "I am opposed to granting suffrage to women because I believe it would be a loss to women and an injury to the State, and to every man and woman in the State. * * * I think so because suffrage implies not merely the casting of a ballot, but entering upon the field of political life; and politics is modified war. In politics there is struggle, strife, contention, bitterness, heart-burning, excitement, agitation—everything which is adverse to the true character of woman. In my judgment, this whole movement arises from a false conception of the duty and the right of men and women. * * * It is a fatal mistake that these excellent women make when they conceive that the functions of men are superior to theirs and seek to usurp them."

Jennie June (Mrs. Jane C. Croly), "Mother of Clubs," founder of the New York Sorosis, and president of the New York Women's Press Club: "The best way for women to approach politics is to let them entirely alone. In all the 50 years that in one way or another I have worked, I have never identified myself with suffrage nor politics."

Rossiter Johnson: "The most civilized portions of mankind have not yet outgrown the measurement of force for the ultimate settlement of every great question, and the unit of force is the man capable of bearing arms. * * * The government set up, and the policy adopted, may not be the best possible; but, if a majority of the men stand behind them, we shall at least have stability, and that is the most necessary element in any government. * * * To make any party victorious at the polls by means of blank-cartridge ballots would only present an increased temptation to the numerical minority to assert itself as the military majority. * * * If an election is carried by a preponderance of votes cast by women, who is to enforce the verdict? When a few such verdicts have been overturned, we shall find ourselves in a state of anarchy."

The English remonstrance (Nineteenth Century, June, 1889): "To sum up: we would give the women their full share in the state of social effort and social mechanism; we look for their increasing activity in that higher state which rests on thought, conscience, and moral influence; but we protest against their admission to direct power in that state which does rest upon force—the state in its administrative, military, and financial aspects—where the physical capacity, the accumulated experience, and inherited training of men ought to prevail without the harassing interference of those who, though they may be partners of men in debate, can in these matters never be partners with them in action. * * * Nothing can be further from our minds than to seek to depreciate the position of importance of women. It is because we are keenly alive to the enormous value of their special contribution to the community that we oppose what seems to us likely to endanger that contribution. We are convinced that the pursuit of a mere outward equality with men is for women not only vain but demoralizing. It leads to a total misconception of woman's true dignity and special mission. It tends to personal struggle and rivalry, where the only effort of both the great divisions of the human family should be to contribute the characteric labor and the best gifts of each to the common stock."

Mrs. Humphry Ward.
Mrs. Leslie Stephen.
Mrs. Thomas H. Huxley.
Mrs. William E. Forster.
Lady Frederic Cavendish.
Hon. Emily Lawless.
Mrs. George J. Goschen.
Mrs. Frederic Harrison.
Mrs. Matthew Arnold.
Mrs. Max Müller.
Mrs. J. Richard Green.
Mrs. Walter Bagehot and others.

Victoria, Queen of England: "The Queen is most anxious to enlist every one who can speak or write to join in checking this mad, wicked folly of 'Woman's rights,' with all its attendant horrors, on which her poor, feeble sex is bent, forgetting every sense of womanly feeling and propriety."

John Bright: "When women are not safe under the charge or care of fathers, husbands, brothers, and sons, it is the fault of our noncivilization and not of our laws. As civilization founded on Christian principles advances, women will gain all that is right for them to have, though they are not seen contending in the strife of political parties. In my experience I have observed

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evil results to many women who have entered heartily into political conflict and discussion. I would save them from it."

William E. Gladstone: "A permanent and vast difference has been impressed upon women and men respectively by the Maker of both. I for one am not prepared to say which of the two sexes has the higher and which has the lower province. * * * I am not without the fear, lest beginning with the state, we should eventually be found to have intruded into what is yet more fundamental and more sacred, the precinct of the family, and should dislocate, or seriously modify, the relations of domestic life."

Herbert Spencer. Herbert Spencer, in Justice, maintains that there are fundamental reasons for keeping the spheres of the sexes distinct. He had formerly argued the matter "from the point of view of a general principle of individual rights," but he finds that this can not be sustained, as he "discovers mental and emotional differences between the sexes which disqualify women for the burdens of government and the exercise of its functions."

Mrs. Humphry Ward: "Women should not vote on questions in the solution of which they can never play a responsible part. Fancy a female general, a female admiral! Fancy a railroad run by women, roads built or mines worked by them! If there is this inevitable physical limitation to a woman's activity * * * is it just that she be given a vote on matters that involve these activities? The national government * * * is concerned in all of these things, and is maintained by the votes of the male portion of the population, which thus indirectly decides on the army, the navy, the railroads, and the scores of material interests in which women can not by nature take an active part."

Goldwin Smith: "Political power has hitherto been exercised by the male sex; not because man has been a tyrannical usurper and has brutally thrust his weaker partner out of her rights, but in the course of nature because man alone could uphold government and enforce the law. Let the edifice of law be as moral and as intellectual as you will, its foundation is the force of the community, and the force of the community is male."

Quarterly Review, Women at Oxford and Cambridge, October, 1897: "Either sex is an appalling blunder, or else it must have been intended that each sex should have its own work to do, not merely in the physical economy of the race, but also in the social and intellectual world. * * * Woman, alike in body, mind, and character, 'is not lesser man, but other.' At the moment, many able women think that it is possible to follow masculine ideas in education, in habit, in practical life, and yet to be true to their own nature. In the long run this is impossible."

Other notable persons who have remonstrated against woman suffrage are President Grover Cleveland; Mrs. Margaret Deland; President Arthur T. Hadley, of Yale University; Miss Ida M. Tarbell; Bishop David H. Greer, of New York; Miss Caroline Hazard, president of Wellesley College; Rev. Dr. Lyman Abbott; Miss Agnes Irwin, dean of Radcliffe College; Charles Dudley Warner; Mrs. Mary E. Wilkins Freeman; Felix Adler; Madame Louise Homer; President William De Witt Hyde, of Bowdoin College; Mrs. Kate Douglas Wiggin; Bishop William C. Doane; Mrs. Clara Louise Kellogg Strakosch; Hon. Charles C. Nott, Chief Justice United States Court of Claims; Mrs. John Ware; Andrew S. Draper, New York State commissioner of education; Miss Carolyn Wells; Rev. Dr. Theodore T. Munger; Miss Mabel T. Boardman; Edward W. Bok; Mrs. Andrew Carnegie; Richard Watson Gilder; Mrs. Celia Thaxter; President Henry P. Judson, of the University of Chicago; Marion Harland (Mrs. Virginia Terhune); Gov. Woodrow Wilson, of New Jersey; Mrs. Schuyler Van Rensselaer; Bishop Arthur C. A. Hall, of Vermont; Mrs. Grover Cleveland; Hon. Edgar Aldrich, United States District Judge for New Hampshire; Mrs. Mary Anderson de Navarro; Rev. Dr. Washington Gladden; Mrs. Rebecca Harding Davis; Winston Churchill (now a suffragist); Mrs. Josephine Daskam Bacon; Rev. Dr. Charles H. Parkhurst; Miss Adeline Knapp; Prof. William K. Brooks, of Johns Hopkins University; Mrs. Helen Watterson Moody; Octave Thanet (Miss Alice French); Mrs. Adeline D. T. Whitney; James Bryce; William E. H. Lecky; Miss Octavia Hill; Frederic Harrison; John Ruskin; Sir E. Ray Lankester; Gilbert K. Chesterton; Rudyard Kipling; and Lord Cromer, "maker of modern Egypt."

Other prominent Massachusetts men who have expressed their opposition to woman suffrage are Govs. Eben S. Draper; Curtis Guild, jr.; W. Murray Crane (now United States Senator); Roger Wolcott; William E. Russell; George D. Robinson and William Gaston; United States Senator Henry Cabot

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Lodge; President A. Lawrence Lowell, of Harvard University; President Charles W. Eliot, of Harvard University; President Franklin Carter, of Williams College; President Mark Hopkins, of Williams College; President George Harris, of Amherst College; President Frederick W. Hamilton, of Tufts College; President Henry Lefavour, of Simmons College; President L. Clark Seelye, of Smith College; President Albert P. Fitch, of Andover Theological Seminary; Principal Alfred E. Stearns, of Phillips Exeter Academy; Bishop William Lawrence; Cardinal O'Connell; George G. Crocker; Congressman William C. Lovering; Prof. Charles Eliot Norton; Maj. Henry L. Higginson; John Fiske; James Ford Rhodes; Charles F. Donnelly; Judge Francis C. Lowell; Charles Warren; Prof. Charles J. Bullock; Morgan Rotch; William D. Sohier; Rodney Wallace; Rev. Joshua P. Bodfish; Samuel J. Elder; Dr. Edward M. Hartwell; Arthur Lord; Charles T. Gallagher; Albert C. Houghton; William B. Plunkett; James M. Prendergast; John N. Cole; Henry L. Pierce; William F. Wharton; Solomon Lincoln; Henry M. Whitney; Rev. John O'Brien; Henry H. Sprague; T. Jefferson Coolidge; Thomas Russell; Prof. William B. Munro; Charles Francis Adams; Prof. Francis J. Child; Elisha Morgan; Jeremiah W. Coveney; Dr. J. Collins Warren; John R. Thayer; W. Lyman Underwood; Dr. Henry P. Walcott; Frederick P. Fish; Melvin O. Adams; James P. Munroe; Robert Winsor; Edwin F. Atkins; Theodore Lyman; John F. Fitzgerald; Dr. William L. Richardson; Walter Clifford; Timothy G. Spaulding; Robert Luce; John T. Burnett; Laurence Minot; John A. Sullivan; Moses Williams; Thomas L. Livermore; Robert M. Morse; Levi J. Gunn; Dr. Walter Channing; Francis H. Appleton; Thornton K. Lothrop; Judge William C. Loring; Charles F. Choate; Arthur H. Lowe; Prof. F. Spencer Baldwin; Dr. William J. Councilman; Frank Foxcroft; Rev. Octavius B. Frothingham; Prentiss Cummings; Prof. William W. Goodwin; Congressman Robert O. Harris; Prof. Paul H. Hanus; William A. Gaston; District Attorney Richard W. Irwin; Dr. Dudley A. Sargent; Frederic J. Stimson, and many others.

(Printed by the Massachusetts Association Opposed to the Further Extension of Suffrage to Women. Pamphlets and leaflets may be obtained from the secretary, room 615, Kensington Building, 687 Boylston Street, Boston, Mass. January, 1912.)

[Maryland Association Opposed to Woman Suffrage.]

WOMAN SUFFRAGE IN COLORADO.

I have voted since 1893. I have been a delegate to the city and State conventions, and a member of the Republican State committee from my county. I have been a deputy sheriff and a watcher at the pools. For 23 years I have been in the midst of the woman suffrage movement in Colorado. For years I believed in woman suffrage and have worked day in and day out for it. I now see my mistake and would abolish it to-morrow if I could.

No law has been put on the statute books of Colorado for the benefit of women and children that has been put there by the women. The child-labor law went through independently of the women's vote. The hours of the working women have not been shortened; the wages of school-teachers have not been raised; the type of men that got into office has not improved a bit.

Frankly, the experiment is a failure. It has done Colorado no good. It has done woman no good. The best thing for both would be if to-morrow the ballot for women could be abolished.

MRS. FRANCIS W. GODDARD,
President of the Colonial Dames of Colorado.

DECEMBER, 1910.

Our State has tried the female suffrage plan a sufficiently long time to form a fair idea of its workings. I am not prejudiced in any way, but honestly do not see where the experiment has proved of benefit. * * * It has produced no special reforms, and it has had no particular purifying effect upon politics. There is a growing tendency on the part of most of the better and more intelligent of the female voters of Colorado to cease exercising the ballot. * * * If it were to be done over again, the people of Colorado would defeat woman suffrage by an overwhelming majority.

HON. MOSES HALLETT,
United States District Judge for Colorado.

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[Morning Telegraph, Sunday, Mar. 3, 1912.]

WHY WOMEN SHOULD NOT VOTE.

THEY WILL PAY THE PRICE OF THEIR EMANCIPATION BY THE TAX ON THEIR MORAL STRENGTH—THE MAJORITY COULD NOT STAND THE STRAIN.

[By Mrs. Gilbert Jones.]

Mrs. Gilbert E. Jones is a woman of pluck and aggressive in her methods for the defeat of woman suffrage. She showed this when, in 1894, she gave up her social aspirations in her home in Madison Avenue, New York City, and went to Albany as one of the set that opposed the proposed constitutional amendment that provided for the enfranchisement of her sex.

From that time on she devoted her time and means to carrying out the ideas of the federation of which she is now the head of the executive committee. Her personal following, to a considerabel extent, stood by her. Many of her associates in the antisuffrage movement are notable in public and social life. One of these is Mrs. Grover Cleveland.

Mrs. Jones in her easy chair, in her library, or as seen in the street or any place where people congregate, would never be picked out as a woman leader in a woman movement in which the whole country is interested. Her physique and dress mark her as a woman whose chief aim is quietude and retirement. She is of the petite class, with pleasant lines in her face and of engaging manner.

When she is asked to explain her reasons for her present work she does not hesitate to express herself. She believes in it. She declares she has no object other than the uplift of her sex and that education which enables a woman to have influence in public matters without becoming entangled in the squabble of politics.

(Mrs. Jones is the chairman of the executive committee of the National League for the Civic Education of Women.)

The demand for woman suffrage is based, first, on woman's natural right to it; second, that it is necessary for the purification of politics and the uplifting of society; third, that woman needs it for her own protection against unjust laws.

First. The woman's "natural" right "to vote": Chief Justice Waite, of the United States Supreme Court, decided that citizenship carried with it no voting power or right. The same decision has been handed down by many courts in disposing of test cases. A resident of the District of Columbia has all the privileges of citizenship, but he can not vote, as that is a State "right," and the District of Columbia is not a State. Citizenship does not entitle a man or woman to vote, so the injustice to woman can not be maintained.

Second. "Women should vote and that it is necessary for the purification of politics and the uplifting of society." In answer to this read Ben Lindsey's article, "The beast in the jungle," and then the politics of Colorado is explained. There women vote and take bribes for their votes, just as men do. The woman political boss is not an object of feminine charm, and politics in Colorado are in no way improved because women vote. And what do we find in Utah, a woman suffrage State? A dynasty ruled by one American citizen, Joseph F. Smith, the Mormon prophet, who claims that he has been divinely ordained to exercise the authority of God over all affairs of his people, not only in his own State, but of those States that surround him; and he is as secure as any tsar and rules like the Sultan of Turkey with his harem. Has woman political, social or economic independence in Utah? Has polygamy been stopped by the woman's instinctive selfrespect or practical and just demands with her powers through the ballot? No. And the Mormon Church is spreading its power more and more deliberately in the other woman suffrage States. Can this mean social uplifting?

Massachusetts and New York were many years granting the equal guardianship of the husband and wife over their own children. Wyoming, Idaho, and Utah grant women no such privileges, and women have voted forty-three years in two of these States. Neither need the husband support the wife, if he does not care to in these three women suffrage States. In Idaho a wife has no control over her own wages or money of any kind, and she can secure control of her own property only by going into court and showing that her husband is mismanaging it. This is always a difficult matter, and shows how little inde-

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pendence women have in Idaho. Much more could be said of these three States, but space compels me to push on to other questions.

Third. "That woman needs it for her own protection against unjust laws." Women can not sustain laws if they make them, neither can they enforce them when once made. The "rights of women" have been generally granted and the married woman's laws are better in New York State and Massachusetts than in any other part of the world, and all without the vote, proving that the ballot is not necessary to bring about these favorable conditions.

Every effort is now being made to guard the woman and the child. It is part of the great evolution of the century, but none of it is being seriously done in connection with "votes for women." It is the result of economic investigation, the anxiety of safeguarding the future generations. The study of the conditions of man, woman, and child is foremost in the mind of all psychologists, sociologists, and scientists. The everyday up-to-date business men know that "their conditions can no longer be overlooked. The humanitarian makes the needs of humanity known to the rich and demands relief. The awakening of our great middle class for knowledge and facts concerning their opportunities and advantages has stirred the civic conscience of the masses, but this and all the vast insight to the activities of the day can not be brought down to the small horizon of the woman-suffrage movement. It is progress—an onward march, and if women had the vote they would find that they must still quicken their step if they keep pace with man—the greatest of God's achievements. Woman does not need more laws for her own protection, but she does need more knowledge concerning herself, more study of her own child, more instruction in mothercraft and homemaking. These glorious privileges are slipping away from her and her economic value is lessening daily as machinery (of man's ingenuity) and man's wealth, labor, and generosity supply her with all the necessities of life.

Books are appearing everywhere about the "woman parasite." "The increase of the death rate of little children," "the decrease of the birth rate of our younger generations," etc., and what does it all mean? Unrest, extravagance, luxury, discontent, imitation, and competition of our middle class, and rank socialism for the lower classes, and in all this whirl of commotion women are still the enigma, and the young woman of to-day is a very serious problem. Motherhood is in need of reform and protection, but the vote will not bring it. Mothers are the creators and builders of character in its youth, and it is necessary that conscious personal relations should be reestablished and understood between the mother and her child.

Scientists are working out these problems of the mother and child, but the mothers themselves are not. The woman suffrage movement and bridge whist are diverting thousands of our young women away from their mother interests and the home, which should be the center of calmness and peace, and from which the greatest as well as the minutest things of life should emanate. Men may grant women the ballot, but men will again bring her back to her own. The natural function of the woman will always remain, if she is true to herself, namely the purifying, spiritualizing, humanizing of society, by influencing the husband, the father, son, or brother in daily contact and an unspoken language, and it is in itself the highest of all human functions; it is nobler than anything which politics and votes can produce.

Politics is not uplifting, and even in the four woman-suffrage States politics is still dismally corrupt, and many women themselves deplore their enfranchisement in Colorado.

The State has fundamental reasons why women should not vote, but women rarely take that viewpoint, but resort to emotional arguments in favor of their particular interests.

Sex is the first reason. Legislation for women as women can be traced from the multimillionaire's wife down to the sweatshop, and social, political, professional, and industrial conditions readjust her to the plane of least resistance for the reason that she is a woman.

Sex is the second reason. Women should not be classed with "idiots, paupers, criminals, and the insane," as is often quoted. Women are not a class, but they must be "exempt" citizens if they are enfranchised, just as peers are in England and clergymen in Switzerland, because they are not made liable for the protection of life and property. Women are not at the "command" of Government—men are. Men and women can offer and volunteer their services alike, but no command can be given to the women voter by any governmental authority. Men must, in the last analysis, by our theory and prac-

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tice of Government create our national force. Women never will. By our practice of drafting the male voter must protect the Nation.

Some men are exempt at the time of need. All women voters would be exempt, and would be a total loss as a national force. At their best they can and have volunteered their services, but Government can never command them as it has and must command men. Women bear sons that create the national force, but not at the command of Government, neither can women guarantee sons if they want to. And what about the barren woman, and those who only have girls, and there is the spinster. All that they contribute to life is volunteered, and can not come under the practical business of Government.

Government sustains and protects all moral and ethical services given by men and women. The church and the State have long since ceased to work hand in hand together, except in Utah.

Man is liable for the protection of life and property, for the maintenance of the home, for the support of wife and children, for the education of the children, for the payments of debts for all necessities of life in the family. Man is the defender of the Nation. Our warships are maneuvered by men. Our great commercial and industrial activities are sustained and guaranteed by men. Ninety-eight per cent of all our marvelous inventions are made by men. The high standard of statesmanship and professional life is upheld by men. Men have done more than their share of the work of the world, and have brought us up to the high-water mark of modern civilization, and yet women demand that they should make the laws to regulate the results of this gigantic human achievement. The conceit of them! To give birth to a thousand children is not to be compared to the man who gave birth to the invention of the printing press; so we can not in any way give either a true measure to their service to humanity. How many "votes for women" will we need to create such a marvelous influence upon the politics of the nation, as did Harriet Beecher Stowe's book, Uncle Tom's Cabin?

Sex is the third reason. As woman is forced out of her home and away from motherhood into extreme social, industrial, and political life, just so must she pay the price of her emancipation by the tax on her physical and moral strength. This may be at bridge, whist, settlement work, in factory work, or in the sweatshop. Some women are equal to this strain, but the majority are not, and we should look for fewer women wage earners, politicians, and office seekers. Discourage women blacksmiths, baggage masters, and women brakemen, and women undertakers. Yet suffragists believe woman's emancipation must be brought about along some of these lines.

There is no class of women to whom the leaders of the equal-suffrage movement have held out more attractive promises than those who are engaged in wage-earning pursuits. It is undeniable that in many such occupations women receive a lower rate of pay than men, and lower than they ought. Believing that they are doing an equal amount of work with the men who are laboring side by side with them, it is natural that such women should feel that they are entitled to an equal rate of pay.

With this feeling I am in entire sympathy. I fail to see, however, any way by which the suffragist leaders could redeem the promises of higher wages to women who are earning their own living, even if their demand for the ballot were to be granted.

It is easy enough to say that men receive higher wages than women in certain occupations because they have votes, but it is a more difficult matter to prove the assertion, and in the States where women vote they often receive 10 per cent less than the men.

About 6,000,000 working women are competing with men to-day. Large numbers of them are under the age of 21, consequently not of the voting age.

When one comes to examine the occupations in which these workers are to be found it appears that the largest single group, about one-fourth of the whole number are domestic servants; so that if increased wages for women workers followed the granting of votes to women, as suffragist advocates claim would be the case, the first to obtain increased pay in all probability would be household workers. These, however, are just the ones whose wages are now admittedly high in comparison with those of other women workers.

The next group of wage earners is the agricultural workers, largely on the southern plantations, generally negresses, who can neither read or write.

After these two classes of women workers come dressmakers, public laundresses, teachers, and farmers, in the order named.

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In none of these occupations, however, aside from those of domestic servants and agricultural laborers, are their numbers sufficiently large to make their votes of any great effect either in national or State elections in carrying through a demand for increased wages.

Moreover, it may be pointed out that the interest of the very largest class of women voters—the wives of wage earners—would lie in securing higher wages for their husbands rather than for other women workers, and these two interests might easily become antagonistic.

In the four States where women vote there is no evidence to show that the ballot has had any effect whatever upon their rate of pay. The wages of household servants are high in Colorado, but this is because they are extremely scarce and not because they are voters. In the case of teachers and other professional workers there has been no apparent effect upon the rate of pay as a result of the adoption of equal suffrage. Indeed, the women teachers in Colorado are paid 10 per cent less than men. This question of the pay of women workers really should have no place in a discussion of the merits of the demand for equal suffrage. It is worth noticing merely because it has been employed so persistently—and apparently with some effect—to win the support of women wage earners for the suffragist movement, and the Socialist can not separate the two for a moment.

My feeling in regard to this question has come as a result of the experience of many years in work which has brought me into close touch with woman wage earners. While the attempt has been made to enlist the support of these women for the cause of equal suffrage, the great majority of wage-earning women are not actively interested in that cause, and its support is confined chiefly to professional agitators.

As one who believes thoroughly in the principle of cooperation embodied in pure trade unionism among women, I deplore the effort by suffragists to manipulate the strength of this movement for themselves and for socialism.

One-fourth of the wage-earning women who demand the ballot are rank Socialists, and any mention of motherhood, government, church, and marriage are scoffed and hissed at—and they promise destruction to our true American ideals of womanhood.

The arguments of those who press the measure to enfranchise women are directed toward the benefit that the vote will prove to women, particularly those who own property.

The objection that women are unjustly taxed without being represented will not bear even slight scrutiny. The phrase "taxation without representation" can not be made an individual right to be claimed by each inhabitant who bears the burden of taxation.

The question of taxation was settled without reference to woman suffrage. Women voted in several of our colonies before the Revolution, and it was not until some time after the Federal Constitution was adopted that the question of suffrage was settled.

To let a woman vote because she owns property would indeed be tyrannical, as it would discriminate against the woman who does not own property, and this unjust condition would be undemocratic and un-American to the last degree, and then the woman suffragist is not asking for a "qualified suffrage." She demands the whole thing, "universal suffrage."

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 765.

PREVENTION OF THE INTRODUCTION AND SPREAD OF CONTAGIOUS AND INFECTIOUS DISEASES.

LETTER

FROM

THE SECRETARY OF THE TREASURY,

CALLING

ATTENTION TO THE DEPLETED CONDITION OF FUND "FOR THE PREVENTION OF THE INTRODUCTION AND SPREAD OF CONTAGIOUS AND INFECTIOUS DISEASES," AND RECOMMENDING AN APPROPRIATION OF $500,000 FOR THIS FUND.

MAY 23, 1912.—Referred to the Committee on Appropriations and ordered to be printed.

TREASURY DEPARTMENT,
OFFICE OF THE SECRETARY,
Washington, May 10, 1912.

The SPEAKER OF THE HOUSE OF REPRESENTATIVES,
Washington, D. C.

SIR: In view of the small amount remaining in the "Fund for the prevention of the introduction and spread of contagious and infectious diseases," and the necessity for the continuation of the work of eradicating bubonic plague on the Pacific coast, and the prevention of the introduction of cholera, yellow fever, and other quarantinable diseases, I have the honor to invite your attention to the following review of the plague situation, and to point out the danger which may be apprehended from the diseases mentioned above.

Plague made its first appearance in San Francisco, Cal., in March, 1900, and was confined to that portion of the city known as "Chinatown" until February, 1904, when it was completely eradicated. In this outbreak 121 cases occurred, only 8 of which recovered.

The present outbreak of bubonic plague in California began May 27, 1907, in the city of San Francisco, and continued among human beings until January 30, 1908, during which time 160 cases of the disease were discovered, of which 77 died. The disease continued among rats, however, until October 23, 1908, since which time no rats infected with bubonic plague have been discovered.

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In the city of Oakland, 12 cases, of which 7 died, occurred between September 12 and December 22, 1907. Twenty-six plague-infected rats were taken in that city, the last being captured December 1, 1908.

One human case, with one death, occurred in the city of Berkeley, August 27, 1907. No infected rats have been found therein.

One human case, which recovered, occurred in Point Richmond on November 27, 1907. No infected rats have been discovered.

One human case, which recovered, was discovered in Los Angeles, August 11, 1908. One infected squirrel was found.

No cases of human plague have been found in the cities of California since August 9, 1911. The disease has, however, been prevalent among ground squirrels in the country, and human cases have occurred in the rural districts each year.

This may be seen by reference to the following table:

Places.	Date of last case of human plague.	Date of last case of rat plague.	Date of last case of squirrel plague.	Total number of rodents found infected since May, 1907.
California:				
Cities—				
San Francisco	Jan. 30, 1908	Oct. 23, 1908	None	398 rats.
Oakland	[1] Aug. 9, 1911	Dec. 1, 1908	do	126 rats.
Berkeley	Aug. 27, 1907	None	do	None.
Los Angeles	Aug. 11, 1908	do	Aug. 21, 1908	1 squirrel.
Counties—				
Alameda [2]	Sept. 26, 1909	Wood rat, Oct. 17, 1909.	Oct. 9, 1911	114 squirrels.
Contra Costa	July 21, 1911	None	Sept. 23, 1911	364 squirrels.
Fresno	None	do	Oct. 27, 1911	1 squirrel.
Merced	do	do	July 13, 1911	5 squirrels.
Monterey	do	do	Aug. 6, 1911	Do.
San Benito	June 5, 1910	do	June 8, 1911	22 squirrels.
San Joaquin	Sept. 18, 1911	do	Aug. 26, 1911	18 squirrels.
San Luis Obispo	None	do	Jan. 29, 1911	1 squirrel.
Santa Clara	Aug. 23, 1910	do	Oct. 5, 1910	23 squirrels.
Santa Cruz	None	do	May 17, 1910	3 squirrels.
Stanislaus	do	do	June 2, 1911	13 squirrels.

[1] This infection was received in Contra Costa County. [2] Exclusive of Oakland and Berkeley.

The Public Health and Marine-Hospital Service in cooperation with the State and municipal boards of health of California have succeeded in eradicating the disease in the cities of that State. It still remains in the rural districts, however, although the number of counties now known to be infected is less than it was when the preliminary sanitary survey was made. The problem at the present time is the eradication of the disease in the country because these infected rural districts constitute a series of permanent foci for plague, from which the disease may be carried to other parts of California or to other States in interstate traffic. The plan upon which the present work is being carried on includes an accurate delimitation of the zones of infection, and the killing of the ground squirrels therein. A portion of this work is being performed by the individual landowners in compliance with the State law for the extermination of rodents. It is, however, necessary to the proper conduct of this work that the enforcement of this law be continued by the Public Health and Marine-Hospital Service.

On account of the proximity of San Francisco, Oakland, and Berkeley to the infected rural districts, and the possibility of the importation of the disease into them from the country, rats are being

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captured in these cities and examined to determine the presence or absence of bubonic plague in them. In addition, the rat-proofing ordinances are being enforced by the Public Health and Marine-Hospital Service.

The following table shows the expenditures in plague-suppressive measures in California to April 30, 1912:

Fiscal year:	
1908	$300,904.71
1909	275,048.06
1910	135,391.87
1911	162,320.40
July 1, 1911, to Apr. 30, 1912	170,511.33
Total	1,044,176.37

At the present time money is being expended at the rate of $14,000 per month, of which $1,250 is allotted for the conduct of the Federal laboratory in San Francisco, and the remainder is expended on the field force.

Plague appeared in Seattle, Wash., on October 16, 1907. Three human cases occurred, the last of which was discovered on October 25, 1907. All of them died. Twenty-five plague rats were found, the last on September 21, 1911. Antiplague measures have been carried on in this port in cooperation with the local health authorities.

On account of the magnitude of the problem as it exists in the State of California, it is impossible to state accurately the length of time which will be required or the amount of money which must be expended in order to eradicate bubonic plague from this country. Inasmuch as it has gained a foothold in a country of most diversified terrain, much of which is not yet under cultivation, too much reliance should not be placed upon the efforts of the individual landowners.

The California State Board of Health has cooperated with the Public Health and Marine-Hospital Service in so far as the limited funds of the former will permit. It may be noted in passing, however, that the State contagious disease fund has not been replenished, and it is stated that the moneys at present available for use by the State board of health in this regard are very limited. At least four or five years, and an expenditure of at least $400,000, should be allowed for the completion of this work.

For several years cholera has made an annual incursion into Russia and the Mediterranean littoral, each time spreading further. Last summer the disease was actually admitted to this country through the ports of Boston and New York, and had it not been for the rapid and efficient work of the Public Health and Marine-Hospital Service in cooperation with the State and local sanitary authorities, it might have gained considerable headway. While the disease is not at the present time extensively prevalent in Europe, it is not at all improbable that it will reappear with the advent of warm weather, and a high degree of watchfulness will be required to exclude it from the United States.

Yellow fever exists at the present time in several of the South American ports and in Yucatan, and if, as is usually the rule, the disease comes northward as summer advances, considerable vigilance will be necessary to prevent the disease from appearing in our Southern States.

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At the present time there remains only $112,075.82 in the "Fund for the prevention of the introduction and spread of contagious and infectious diseases," and at the present rate of expenditure it is thought that this fund will be completely exhausted by September 20, 1912.

In view of the fact that there exists one known plague focus in this country and that possibly the disease exists unknown among the rodents of other localities, it is evident that unless this fund be replenished the work of eradication must be discontinued and the country exposed to a considerable menace.

This fund is applied not only for the prevention of the introduction and spread of bubonic plague but also for the exclusion and eradication of cholera, yellow fever, and typhus fever. Should they gain a foothold in the United States, it becomes apparent that if this fund is exhausted the Federal health authorities would be rendered helpless in the face of such an emergency.

It is therefore urged that Congress appropriate the sum of $500,000 for this fund. This request is made only after due and careful consideration; in fact this item was not placed in the Book of Estimates because at the time of its preparation this matter was being investigated carefully, so that any recommendations which might be made would be in the interest of economy and efficiency.

Respectfully,

FRANKLIN MACVEAGH, *Secretary.*

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 781.

LESLIE J. LYONS.

LETTER

FROM

THE ATTORNEY GENERAL,

TRANSMITTING

PURSUANT TO HOUSE RESOLUTION, INFORMATION RELATIVE TO CHARGES PREFERRED AGAINST LESLIE J. LYONS, UNITED STATES ATTORNEY FOR THE WESTERN DISTRICT OF MISSOURI. CERTAIN INFORMATION IS WITHHELD BY DIRECTION OF THE PRESIDENT.

May 31, 1912.—Referred to the Committee on the Judiciary and ordered to be printed.

DEPARTMENT OF JUSTICE,
OFFICE OF THE ATTORNEY GENERAL,
Washington, D. C., May 28, 1912.

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

SIR: I beg to acknowledge receipt of certified copy of a resolution adopted by the House of Representatives on the 25th instant, reading as follows:

Resolved, That the Attorney General of the United States be, and he is hereby, directed, if not incompatible with public interest, to transmit forthwith to the House of Representatives a copy of the charges filed against Leslie J. Lyons, United States district attorney for the western district of Missouri, together with the report of Arthur T. Bagley, special agent detailed by the Department of Justice to investigate said charges, and a statement of the action of the Department of Justice, if any, upon said charges and report.

In reply, I beg to state that on or about August 18, 1911, one Ernest D. Martin, then under indictment in the United States court at Kansas City, Mo., for misuse of the mails, filed with this department a copy of certain charges against Mr. Lyons, which he stated he intended also to file in the Kansas City Court of Appeals. Three days later, and before these charges were called to my personal attention and before any action thereon had been taken by the department, I was informed by Mr. Lyons that these charges had been so filed as the basis for a proceeding looking to his disbarment. Mr. Lyons informed me that he had made application for an immediate hearing of the charges, and he requested that a representative of this department be

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present at each hearing. I accordingly detailed Special Agent Arthur T. Bagley to attend the hearings and to make inquiries into the subject matter of the charges made against Mr. Lyons. On November 30, 1911, after the close of the testimony in that proceeding, the special agent made a report to me of the substance of the testimony adduced and of his views with respect thereto, as well as with respect to one or two other matters affecting Mr. Lyons to which his attention had been drawn in connection with the matters involved in the disbarment matter. This report was accompanied by a number of ex parte statements, letters, reports, and other papers. A copy of this report was transmitted to Mr. Lyons for such comment and answer as he might see fit to make; but I deemed it proper to take no other action with respect to it so long as the proceeding in the Kansas City court was pending undetermined.

As I had the honor to inform you by a communication dated April 5, 1912, the Kansas City Court of Appeals on April 1, 1912, rendered a very comprehensive judgment, a copy of which I transmitted to the House of Representatives on April 5, 1912, which dealt with substantially all of the charges which had been the subject of the investition made by the agent of this department, and fully acquitted Mr. Lyons of any wrongdoing in connection with them, holding that the charges were not supported by the evidence, and directing the proceeding to be dismissed.

On April 5, I addressed to Mr. Lyons a letter, a copy of which is annexed, in which I called his attention to two matters, one of which apparently had not been brought to the attention of the Kansas City Court of Appeals. In reply, I received a letter from Mr. Lyons dated April 9, a copy of which is submitted herewith.

In the light of this correspondence, and the decision of the Kansas City Court of Appeals, I did not deem it necessary to call upon Mr. Lyons for any further communication or comment with respect to the report of the special agent, above referred to. In my opinion it would be most unfair to Mr. Lyons to give publicity or currency to the report of the special agent referred to, which was a confidential report for the information of this department, or to the papers accompanying the report. They constitute matters which were in the nature of an ex parte investigation into matters concerning which a court of competent jurisdiction has since passed judgment, with the single exception of the land company matter referred to in the correspondence accompanying this communication; and in my opinion it is not compatible with the public interest to make them public.

Certain other charges against Mr. Lyons were presented to me in February, 1912, by one Olcott C. Colt, who had been convicted in the United States court at Kansas City, Mo., of using the mails in furtherance of a scheme to defraud, the conviction affirmed on appeal by the circuit court of appeals, and a writ of certiorari to review the same denied by the Supreme Court. A portion of these charges were merely repetitions of some of those made by Martin and were determined in favor of Mr. Lyons by the court; and the remaining charges were matters of law which were settled by the affirmance of the judgment against Olcott in the circuit court of appeals.

Upon consideration of the foregoing facts, I am directed by the President to withhold the communication of these papers to the

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House in accordance with the request embodied in the above-mentioned resolution.

Respectfully,

GEO. W. WICKERSHAM,
Attorney General.

WASHINGTON, *April 5, 1912.*

LESLIE J. LYONS, Esq.,
United States Attorney, Kansas City, Mo.

SIR: I have received and read with interest the judgment of the Kansas City Court of Appeals finding in your favor upon all of the charges which were the subject of complaint against you. These charges are substantially all that were made the subject of complaint to, and investigation by, this department. With respect to your professional association with George L. Davis, I would direct your attention to the report of Examiner Bagley, pages 10 to 22 and 72 to 74. It seems to me that, regardless of any provisions of the State law, no attorney as closely associated with you as Mr. Davis appears to have been should defend criminal cases which are prosecuted by you.

One other point remains to be mentioned, and that is the matter of your employment as attorney for the Oregon Valley Land Co. (See pp. 42 to 70 and 73 to 82 of Bagley's report.) Mr. Bagley's report contains much data with reference to this matter which appears not to have been before the Kansas City Court of Appeals. This evidence seems to clearly indicate that the concerns referred to have been under investigation by the Post Office Department at different times; that they may become the objects of a criminal prosecution; and that they are not of a character which would tend to strengthen your usefulness as United States attorney. After reading Mr. Bagley's report on this subject, I feel that it would be very desirable for you to sever your professional connection with those concerns.

Respectfully,

GEO. W. WICKERSHAM,
Attorney General.

KANSAS CITY, MO., *April 9, 1912.*

The ATTORNEY GENERAL,
Washington, D. C.

SIR: I received your kind letter of the 5th instant and note what you say with respect to the opinion of the court of appeals in disbarment proceedings against me.

In this connection I have to advise you that Mr. Davis is not now and never has been interested in the prosecution of any cases in the Federal court, save and except the Martin case. I am authorized by him to say to you that he will not participate or become interested in any cases in which I am called upon to prosecute in the Federal court here. I desire to state further that immediately upon the matter of my office arrangements with him being called in question, or being the subject of criticism in any way, I severed my relations and have not had any office or professional relations with him since early last fall. Without entering into any detailed explanation of my relations with him, I think it appropriate to call attention to the fact that his

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employment in the Martin case was prior to any arrangements with respect to our office connection. There being no other relation than that of friends existing, it seemed to me that there was no impropriety whatsoever in his being employed in that case, and that was the reason that moved me in making the statement to him that I did when he asked if I had any objections to him appearing in the case.

With respect to my employment by and connection with the land company, I have to advise that I have not acted as attorney for the land company since I have been United States attorney, and shall not, of course, accept employment in any matters pertaining to that business or for those interested in it. My professional connection with the persons interested in those concerns has long since been severed. and I do not have and shall not have any sort of connection with any concern whatsoever that will in any way embarrass me or the department in connection with any cases that are now pending or which may hereafter be brought in this court.

Again thanking you for the action that you have taken in the matter, I am,

Yours, sincerely,

LESLIE J. LYONS,
United States Attorney.

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 782.

INCREASE OF THE NAVY.

LETTER

FROM

THE SECRETARY OF THE NAVY,

TRANSMITTING,

PURSUANT TO HOUSE RESOLUTION 363, INFORMATION RELATIVE TO BIDS AND CONTRACTS MADE WITH VARIOUS PERSONS AND CORPORATIONS UNDER THE HEAD "INCREASE OF THE NAVY."

MAY 31, 1912.—Referred to the Committee on Naval Affairs and ordered to be printed.

DEPARTMENT OF THE NAVY,
OFFICE OF THE SECRETARY,
Washington, May 29, 1912.

MY DEAR MR. SPEAKER: House resolution 363 of the 4th instant calls for information as follows:

Resolved, That the Secretary of the Navy be, and he hereby is, directed to report to the House of Representatives, for its information, a full statement and complete list of all bids received, contracts made, and moneys expended, giving the names of all persons, firms, or corporations submitting bids or with whom contracts were made, together with the dates and amounts of each bid submitted and contract entered into, under the provisions of the paragraphs "Increase of the Navy; torpedo boats" and "Increase of the Navy; armor and armament," of the act entitled "An act making appropriations for the naval service for the fiscal year ending June thirtieth, nineteen hundred and twelve, and for other purposes," approved March fourth, nineteen hundred and eleven.

The paragraph in the act of March 4, 1911, "Increase of the Navy; torpedo boats," while providing for expenditures on submarine boats, is not the provision of the act under which the construction of the vessels is expressly authorized. The four submarine boats authorized by said act were provided for in a paragraph beginning "four submarine torpedo boats" under "Increase of the Navy," preceding the paragraph of which the title is quoted in the resolution.

Said four vessels were advertised June 21, 1911, and proposals for their construction (only two bidders competing, the Electric Boat Co. and the Lake Torpedo Boat Co.), which were opened September 1, are shown in a tabulated statement herewith.

The contracts were awarded to the Electric Boat Co. for all four vessels, two to be built on the Atlantic coast at $478,000 each, and

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two on the Pacific coast at $512,000 each. The prices stated in the proposal for these vessels were $481,000 each for two on the Atlantic coast and $515,000 each for two on the Pacific coast, but the proposal contained a stipulation that if payments were to be made in a given number of equal installments during the progress of the work without reservation of percentage from each payment, $3,000 should be deducted from the price stated for each vessel. Accordingly the sum named, $3,000, was deducted from the stated prices, $481,000 for the Atlantic-coast boats, and $515,000 for the Pacific-coast boats, making the contract prices $478,000 and $512,000 for each of the boats of the respective groups. This action was taken in view of the provisions of the act of August 22, 1911, which authorizes this department to make partial payments under its contracts from time to time not in excess of the value of the work already done.

Under the contract for each of said vessels payment has been made of the first installment, one-twentieth of the contract price, amounting to $23,900 on each of the Atlantic-coast boats and $25,600 on each of the Pacific-coast boats.

In the bidding for these vessels the prices named by the Lake Torpedo Boat Co. are, it will be observed, lower than those of its competitor, but the Lake Co.'s prices do not include spare parts which were to be furnished at an additional cost to the company plus 10 per cent, whereas the Electric Boat Co.'s prices included spare parts. The Lake Co. offered no boats on the Pacific coast, confining its proposal to construction and delivery on the Atlantic coast. At the time the award of the contracts for these boats was under consideration the Lake Co. had contracts with the department for delivering three submarine boats—the *Seal*, contracted for February 3, 1908; the *Tuna*, contracted for April 21, 1909; and the *Turbot*, contracted for January 19, 1911. The company had not made satisfactory progress toward completion and delivery of any of said vessels, and, considering all the facts and circumstances of the case, the department did not deem it advisable in the interest of the Government to give the Lake Co. another vessel to build at that time. Consequently, the contracts for all were awarded as stated above to the Electric Boat Co.

The proposals received and contracts entered into by the department and payments made thereon under the provision "Increase of the Navy; armor and armament," of said act are shown in tabulated statements also inclosed. Said statements, however, do not include a contract made October 25, 1911, on proposal dated October 12, with the Whitehead Torpedo Works for 50 torpedoes, at $3,881.71 each, or a total of $194,085.50. Information concerning that contract and others of similar character previously made has not heretofore been furnished for inclusion in any published reports, and it is requested in the interests of the Government that information relative thereto be not made public at this time.

Information in detail as contemplated by said resolution relating to other contracts made by the Bureau of Supplies and Accounts and purchasing pay officers under the indicated provisions of said act is set forth in tabulated statement and reports also inclosed herewith.

Faithfully, yours,

G. v. L. MEYER.

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

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INCLOSURES ACCOMPANYING NAVY DEPARTMENT'S LETTER OF MAY 29, 1912.

[Letter from purchasing pay officer to Bureau of Supplies and Accounts. Subject: Congressional inquiry concerning purchases from "Increase of the Navy, armor and armament," act of Mar. 4, 1911.]

UNITED STATES NAVY PAY OFFICE,
2 Rector Street, New York, May 17, 1912.

1. In compliance with instructions contained in bureau's letter of the 16th instant, No. 114733, this office submits the following report relative to Ordnance Bureau requisition No. 84, series of 1911, and Ordnance (New York) requisition No. 95, series of 1911:

Ordnance Bureau requisition No. 84.—For variable-speed gears and spare parts, tools and the accessories for same: The Bureau of Supplies and Accounts, in approving this requisition, under date of March 26, 1911, waived competition in favor of the Waterbury Tool Co., Waterbury, Conn. Notation also appeared on the requisition, as follows: "These speed gears are a patented article, the control of which is held by the Waterbury Tool Co., and there is no other company from which they can be obtained." The bid of the Waterbury Tool Co., $19,000, was therefore the only one obtained, and was submitted on a proposal blank issued by this office under date of March 27, 1911. The bid in question conformed exactly to the estimated cost stated on the requisition, and award was accordingly made to the Waterbury Tool Co., being covered by New York Navy pay office contract No. 451 (series of 1911), dated April 14, 1911. The full amount of said contract, $19,000, was paid to the Waterbury Tool Co. April 15, 1912.

Ordnance (New York) requisition No. 95.—Subtarget gun machines equipped with Springfield rifles: The Bureau of Supplies and Accounts, in approving this requisition, under date of May 24, 1911, waived competition in favor of the Subtarget Gun Co., No. 216 High Street, Boston, Mass. Proprietary certificate also appeared in the specifications of the requisition as follows: "No other will answer the requirements of the service." The bid of the Subtarget Gun Co., $510, was therefore the only one obtained, and was submitted on a proposal blank issued by this office under date of May 25, 1911. The bid in question conformed exactly to the estimated cost stated on the requisition, and award was accordingly made to the Subtarget Gun Co., being covered by New York Navy pay office contract No. 521 (series 1911), dated June 29, 1911. The full amount of said contract, $510, was paid to the Subtarget Gun Co. September 12, 1911.

REAH FRAZER.

[Letter from purchasing pay officer to Bureau of Supplies and Accounts. Subject: Congressional inquiry concerning purchases from "Increase of the Navy, armor and armament," act of Mar. 4, 1911.]

UNITED STATES NAVY PAY OFFICE,
ROOMS 42–45 MASON BUILDING,
Boston, May 17, 1912.

1. Replying to the bureau's letter of the 16th instant, No. 114733, relative to Ordnance Bureau requisition No. 44, approved by the bureau June 28, 1911, covering two subtarget gun machines, I have to report that the only bid received was that of the Subtarget Gun Co., 216 High Street, Boston, Mass., competition having been waived; date of bid, June 29, 1911; amount of bid, $500. Navy pay office (Boston) contract No. 106 was entered into with that company under date of June 30, 1911. Voucher for $497.50 was paid July 27, 1911, the sum of $2.50 being assessed for liquidated damages, which sum was subsequently refunded on September 6, 1911.

C. S. WILLIAMS.

STATEMENT OF BIDS UNDER LIST OF REQUISITIONS TO ACCOMPANY BUREAU'S LETTER No. 114733, OF MAY 16, 1912, FOR THE NAVY P. O., NEWPORT, R. I.

OPEN PURCHASE.

Requisition No. 210, Ordnance Torpedo Station; approved Mar. 4, 1911—Rubber gaskets.

Bids received (Mar. 15, 1911):

National India Rubber Co.	$117.50
The B. F. Goodrich Co.	125.00
Peerless Rubber Manufacturing Co.	170.00
Newport Engineering Works	200.00

Order placed with National India Rubber Co., Mar. 15, 1911, $117.50. Amount paid to National India Rubber Co., $118.21 (quantity delivered being slightly in excess of number of gaskets ordered).

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Requisition No. [illegible] Ordnance Torpedo Station, approved Apr. [illegible], 1911—[illegible]

Bids received [illegible]

[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

Order placed with [illegible] May [illegible], 1911. [illegible]

Requisition No. [illegible] Ordnance Torpedo Station, approved Apr. [illegible], 1911—[illegible]

Bids received [illegible]

[illegible]	[illegible]
[illegible]	[illegible]

Order placed with [illegible] Apr. [illegible], 1911. [illegible]

Requisition No. [illegible] Ordnance Torpedo Station, approved Apr. [illegible], 1911—[illegible]

Bids received [illegible]

[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

Order placed with [illegible] May [illegible], 1911. [illegible] Amount paid [illegible]

Requisition No. [illegible] Ordnance Torpedo Station, approved May [illegible], 1911—Spring balances and [illegible]

Bids received [illegible] $[illegible]

Order placed with [illegible] June [illegible], 1911. $[illegible] Amount paid [illegible]

Requisition No. [illegible] Ordnance Torpedo Station, approved May [illegible], 1911—Hard steel balls and [illegible]

Bids received [illegible]

[illegible]	$12.50
[illegible]	16.25
[illegible]	17.50

Order placed with [illegible] May [illegible], 1911. $12.50. Amount paid [illegible]

[illegible]	33.75

Order placed with Morgan Spring Co., May [illegible], 1911. $[illegible]. Amount paid to Morgan Spring Co. $[illegible]

Requisition No. [illegible] Ordnance Torpedo Station, approved June [illegible], 1911—Springs.

Bids received [illegible]

Morgan Spring Co.	$10.00
The Wallace Barnes Co.	13.50
[illegible]	75.00

Order placed with Morgan Spring Co., July 15, 1911, $10. Amount paid to Morgan Spring Co. $10.

Requisition No. 10 Ordnance Torpedo Station, approved July 17, 1911—German silver helical springs.

Bids received (July [illegible], 1911)

Morgan Spring Co., 21 days' delivery	$9.00
The Wallace Barnes Co., 65 days' delivery	9.00

Order placed with Morgan Spring Co., August 16, 1911, $9. Amount paid to Morgan Spring Co., $9.

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Requisition No. 13.—Ordnance, torpedo station; approved July 19, 1911—Helical springs.

Bids received (Aug. 3, 1911):

Morgan Spring Co. (21 days' delivery)	$12.00
The Wallace Barnes Co. (60 days' delivery)	12.00

Order placed with Morgan Spring Co., August 10, 1911, $12. Amount paid to Morgan Spring Co., $12.72 (quantity delivered being slightly in excess of number of springs ordered).

Requisition No. 21.—Ordnance, torpedo station; approved Aug. 3, 1911—Iron castings.

Bid received (Aug. 4, 1911; purchased in advance of approval): Fuller Iron Works $19.87

Order placed with Fuller Iron Works, August 11, 1911, $19.87. Amount paid to Fuller Iron Works, $19.95 (quantity delivered being slightly in excess of number of pounds of castings ordered).

Requisition No. 25.—Ordnance, torpedo station; approved Aug. 15, 1911—Cordite tube ends and springs.

Bids received (Sept. 7, 1911):

Items Nos. 2 and 3—

Harry Hunt	$153.33
Newport Foundry & Machine Corporation	420.00

Order placed with Harry Hunt September 29, 1911, $153.33. Amount paid to Harry Hunt, $153.33.

Item No. 4—

The Bridgeport Chain Co. (The Miller Wire Spring Co. department)	$26.00
The Wallace Barnes Co.	35.00
Miller & Van Winkle	[1] 38.75
Morgan Spring Co	42.65

Order placed with The Bridgeport Chain Co. (The Miller Wire Spring Co. department), September 26, 1911, $26. Amount paid to The Bridgeport Chain Co. (The Miller Wire Spring Co. department), $26.62 (quantity delivered being slightly in excess of number of springs ordered).

Requisition No. 37—Ordnance, torpedo station; approved Sept. 1, 1911—Rubber washers.

Bids received (Oct. 24, 1911):

National India Rubber Co.	$65.75
E. W. Bliss Co.	245.00
Harry Hunt	930.00

Order placed with National India Rubber Co., October 30, 1911, $65.75. Amount paid to National India Rubber Co., $65.75.

Requisition No. 40—Ordnance, torpedo station; approved Sept. 13, 1911—Hard-steel balls.

Bids received (Sept. 18, 1911): American Ball Co. $0.25

Order placed with American Ball Co., October 5, 1911, $0.25. Amount paid to American Ball Co., $0.25.

Requisition No. 52—Ordnance, torpedo station; approved Oct. 10, 1911—Engine cranks, proprietary.

Bids received (Oct. 27, 1911; competition waived): The Exeter Machine Works $255.00

Order placed with The Exeter Machine Works, November 15, 1911, $255. Amount paid to The Exeter Machine Works, $255.

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[1] Informal. "Notice to bidders" not signed.

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Requisition No. 60—Ordnance, torpedo station; approved Oct. 24, 1911—Air cylinder gland washers.

Bids received (Nov. 27, 1911):
Item No. 1 (Item No. 2 canceled)—

Vermilye & Power	[1] $35.00
E. F. Houghton & Co	40.00
United States Indestructible Gasket Co	45.00

Order placed with E. F. Houghton & Co., December 18, 1911, $40. Amount paid to E. F. Houghton & Co., $40.08 (quantity delivered being one washer in excess of number ordered).

Requisition No. 74—Ordnance, torpedo station; approved Nov. 22, 1911—Gyro wheels, spindles, etc.

Bids received (Dec. 26, 1911; competition waived):

Navy yard, Washington, D. C	$1,857.17
E. W. Bliss Co	3,595.00

Bureau recommended, by indorsement No. 117782, February 2, 1912, that the work be done at the navy yard, Washington, D. C., for $1,857.17.

Requisition No. 85—Ordnance torpedo station; approved Jan. 4, 1912—Split pins and hard steel balls.

Bids received (Feb. 5, 1912):
Items Nos. 1, 5, and 6—E. W. Bliss Co $20.00

Order placed with E. W. Bliss Co., February 23, 1912, $20. Amount paid to E. W. Bliss Co 20.00

Items Nos. 2, 3, and 4 canceled.
Item No. 7—

Atlas Ball Co	1.00
American Ball Co	1.50
E. W. Bliss Co	3.00

Order placed with Atlas Ball Co., February 23, 1912, $1. Amount paid to Atlas Ball Co., $1.

Requisition No. 90—Ordnance torpedo station; approved Jan. 6, 1912—Gaskets, washers, and hard steel balls.

Bids received (Jan. 24, 1912):
Items Nos. 1 and 4—H. W. Johns-Manville Co $335.00

Order placed with H. W. Johns-Manville Co., January 30, 1912, $335. Amount paid to H. W. Johns-Manville Co., $289.49, on account.

Items Nos. 2, 3, 5, 6, 7, and 8 canceled.
Items Nos. 9 and 10—

The Peckham Co	112.00
The Voorhees Rubber Manufacturing Co	148.80
H. W. Johns-Manville Co	287.00

Order placed with The Peckham Co., January 30, 1912, $112. Not yet paid for.

Item No. 11—

Flanders Manufacturing Co	58.00
American Ball Co	77.00
Atlas Ball Co	80.00

Order placed with Flanders Manufacturing Co., February 1, 1912, $58. Amount paid to Flanders Manufacturing Co., $58.

[1] Informal; special notice to bidders not signed.

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Requisition No. 125—Ordnance torpedo station; approved Feb. 20, 1912—Rubber washers.

Bids received (Mar. 11, 1912):

The B. F. Goodrich Co	$152.50
The Peckham Co	358.75
E. W. Bliss Co	412.00

Order placed with the B. F. Goodrich Co., March 22, 1912, $152.50. Not yet paid for.

Requisition No. 135—Ordnance torpedo station; approved Mar. 9, 1912—Machinist hammers.

Bids received (Mar. 26, 1912):

Wm. B. Scott & Co	$22.80
Stephen W. Coggeshall	23.40
Knox & Bro	26.00
The Geo. A. Weaver Co	27.00
Montgomery & Co	27.00
The Peckham Co	75.00

Order placed with Wm. B. Scott & Co., March 28, 1912, $22.80. Not yet paid for.

Requisition No. 136—Ordnance torpedo station; approved Mar. 9, 1912—Flat-nose pliers.

Bids received (Mar. 20, 1912): The Peckham Co $79.98

Order placed with the Peckham Co., March 21, 1912, $79.98. Amount paid to the Peckham Co., $79.98.

Requisition No. 137—Ordnance torpedo station; approved Mar. 9, 1912—Screw-driver handles.

Bids received (Mar. 19, 1912):

The Geo. A. Weaver Co	$29.38
Godfrey, Keeler Co	61.00

Order placed with the Geo. A. Weaver Co., March 19, 1912, $29.38. Amount paid to the Geo. A. Weaver Co., $24.38 on account.

Requisition No. 152—Ordnance torpedo station; approved Apr. 1, 1912—Torpedo test pumps.

Bids received (Apr. 24, 1912—competition waived): Precision Thermometer & Instrument Co $98.00

Order placed with Precision Thermometer & Instrument Co., April 25, 1912, $98. Amount paid to Precision Thermometer & Instrument Co, $98.

COVERED BY NEWPORT NAVY PAY OFFICE CONTRACTS.

Requisition No. 24.—Ordnance torpedo station; approved Aug. 11, 1911—Gyro adjustment stands.

Bid received (Aug. 30, 1911; competition waived): E. W. Bliss Co $2,500.00

Contract made with E. W. Bliss Co., No. 50, dated September 25, 1911; amount, $2,500. Amount paid to E. W. Bliss Co., $2,423.75; penalty for delayed delivery, $76.25.

Requisition No. 83.—Ordnance torpedo station; approved Jan. 2, 1912—Torpedo-steering engine.

Bid received (Jan. 16, 1912):

Harry Hunt	$1,237.50
E. W. Bliss Co	3,850.00

Contract made with Harry Hunt, No. 87, dated February 8, 1912, $1,237.50. Not yet paid for.

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Requisition No. 260.—Ordnance torpedo station; approved May 5, 1911—Engine body casting.

Bid received (May 17, 1911; competition waived): Fore River Shipbuilding Co..... $2,000.00

Contract made with Fore River Shipbuilding Co., No. 179, dated June 29, 1911; amount, $2,000. Amount paid to Fore River Shipbuilding Co., $2,116.83; penalties for delayed delivery, $10.57 (quantity delivered being in excess of number of pounds ordered).

Requisition No. 217.—Ordnance torpedo station; approved Mar. 15, 1911—Bliss-Leavitt torpedo tools.

Bid received (Apr. 3, 1911; competition waived): E. W. Bliss Co..... $2,500.00

Contract made with E. W. Bliss Co., No. 158, dated April 15, 1911; amount, $2,500. Amount paid to E. W. Bliss Co., $2,500.

Requisition No. 232.—Ordnance torpedo station; approved Mar. 24, 1911.—Bliss-Leavitt torpedo tools.

Bid received (May 2, 1911; competition waived): E. W. Bliss Co..... $2,500.00

Contract made with E. W. Bliss Co., No. 163, dated May 8, 1911. Amount, $2,500. Amount paid to E. W. Bliss Co., $2,500.

Requisition No. 236.—Ordnance torpedo station; approved Mar. 30, 1911.—Bliss torpedo exercise heads.

Bid received (May 5, 1911; competition waived): E. W. Bliss Co..... $1,500.00

Contract made with E. W. Bliss Co., No. 164, dated May 8, 1911. Amount, $1,500. Amount paid to E. W. Bliss Co., $1,350; penalty for delayed delivery, $150.

Requisition No. 237.—Ordnance torpedo station; approved Mar. 31, 1911.—Iron castings.

Bid received (May 2, 1911; competition waived): Fuller Iron Works..... $846.00

Contract made with Fuller Iron Works, No. 165, dated May 8, 1911. Amount, $846. Amount paid to Fuller Iron Works, $846.

UNITED STATES NAVY PAY OFFICE,
Newport, R. I., May 18, 1912.

L. C. KERR,
Pay Director, United States Navy.

[From purchasing pay officer to the Paymaster General. Subject: Congressional inquiry concerning purchase from "Increase of the Navy, armor and armament," act of Mar. 4, 1911. S. and A. No. 114733, May 16, 1912.]

UNITED STATES NAVY PAY OFFICE,
ROOM 417 POST OFFICE BUILDING,
Philadelphia, May 17, 1912.

1. Bureau of Ordnance requisition No. 15, dated July 18, 1911, approved July 27, 1911, for air flasks to be delivered at the naval torpedo station, Newport, R. I., contained the following clause: "It is requested that competition be waived and the order be placed with the Bethlehem Steel Co., South Bethlehem, Pa."

2. In compliance therewith, a bid was sent to the Bethlehem Steel Co. only to secure their confirmation of the estimated cost of $360.

3. Their bid was received August 2, 1911, and order was placed the same day as directed in the requisition.

4. Payment therefor was made by Philadelphia subtreasury check No. 212122 dated September 30, 1911.

S. MCGOWAN.

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Navy pay office, Washington, D. C.

Ord. req.	Bidders.	Date.	Amount.	Award.	Date.	Paid.	Date.
157	J. S. Betz Co.[1]	Mar. 25, 1911	$8.10	$8.10	Apr. 11, 1911	$8.10	Apr. 17, 1911
3	Underwood Typewriter Co.[1]	Oct. 2, 1911	67.50	67.50	Oct. 3, 1911	67.50	Nov. 1, 1911
37	Bausch & Lomb Optical Co.[1]	Sept. 5, 1911	10,000.00	10,000.00	Sept. 8, 1911	10,000.00	Sept. 15, 1911
48	The Whitney Manufacturing Co.[1]	Feb. 6, 1912	457.96	457.96	Feb. 24, 1912	457.96	Apr. 12, 1912
76	Colt's Patent Fire Arms Manufacturing Co.[1]	Nov. 9, 1911	42.50	42.50	Nov. 17, 1911		
53	Railway Steel Spring Co	Feb. 13, 1912	33.00	33.00	Feb. 20, 1912	33.00	Apr. 27, 1912
	Union Spring & Manufacturing Co		33.00				
	Miller & Van Winkle		39.60				
	American Spiral Spring & Manufacturing Co		55.00				
[2] 57	Thos. Somerville Co	Feb. 15, 1912	116.16	116.16	Feb. 24, 1912		
61	Railway Steel Spring Co	Feb. 16, 1912	30.00	30.00	do	30.00	Apr. 26, 1912
	American Spiral Spring & Manufacturing Co		150.00				
	Morgan Spring Co.[3]		5.35				
63	Rawles-Cobb Co	Feb. 21, 1912	4.40	4.40	Feb. 27, 1912	4.40	Mar. 29, 1912
	Atlas Ball Co		6.00				
	Standard Roller Bearing Co		12.75				
64	The Carpenter Steel Co. (estimated 102 pounds)	Feb. 26, 1912	[4] .1775	[4] .1775	Mar. 14, 1912		
	The Midvale Steel Co.		1,490.00				
67	Morgan Spring Co	Mar. 1, 1912	9.60	9.60	Mar. 19, 1912		
	Railway Steel Spring Co		80.00				
	American Spiral Spring & Manufacturing Co		192.00				
69	Atlas Ball Co	Mar. 1, 1912	2.70	2.70	Mar. 8, 1912	2.70	Apr. 1, 1912
	Rudolph & West Co.		2.86				
	Rawles-Cobb Co		3.04				
	James B. Lamble Co.		3.38				
	Barber & Ross		5.15				
	Standard Roller Bearing Co		4.86				
78	Thos. Somerville Co.	Mar. 12, 1912	6.00	6.00	Mar. 21, 1912	6.00	Apr. 12, 1912
	James B. Lamble Co.		11.25				
	Barber & Ross		19.38				
83	Railway Steel Spring Co.[1]	Mar. 19, 1912	60.00	60.00	Mar. 25, 1912		
89	do	Mar. 29, 1912	39.00	39.00	Apr. 4, 1912		
	American Spiral Spring & Manufacturing Co		104.00				
	Miller & Van Winkle		128.80				
90	Railway Steel Spring Co	Mar. 29, 1912	3.00	3.00	Apr. 4, 1912		
	American Spiral Spring & Manufacturing Co		8.00				
	Miller & Van Winkle		12.60				
91	Thos. Somerville Co.	Mar. 29, 1912	.96	.96	Apr. 4, 1912	.96	Apr. 27, 1912
	Cuyler & Mohler		1.60				
96	Rawles-Cobb Co	Apr. 4, 1912	25.35	25.35	Apr. 9, 1912	25.35	May 6, 1912
	Atlas Ball Co		28.18				
	Jas. B. Lamble Co		33.19				
	Standard Roller Bearing Co		59.98				
101	Carnegie Steel Co.[5]	Dec. 19, 1911	[4] .0721	[4] .0721	Dec. 28, 1911	159.34	Feb. 23, 1912
104	Bids referred to yard, not returned as yet.						
106	do						
108	The Whitney Manufacturing Co.[1]	Apr. 27, 1912	85.00	85.00	May 6, 1912		

[1] Competition waived.
[2] Barber & Ross is other bidder on requisition No. 57 at $290.40.
[3] Partial bid received at 3.30 p. m.
[4] Pound.
[5] Competition limited; no other bid.

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Navy pay office, Washington, D. C.—Continued.

Ord. req.	Con. No.	Bidders.	Date.	Amount.	Award.	Date.	Paid.	Date.
67	221	Wm. D. Gill & Son	Mar. 27, 1911	$624.00	$624.00	Apr. 4, 1911	$311.79	May 22, 1911
.....	.....	Geo. E. Walker	.....	640.00	.....	.....	304.20	June 21, 1911
.....	.....	F. Libbey	.....	640.00	.....	.....	.....	.....
.....	.....	W. A. H. Church	.....	644.50	.....	.....	.....	.....
111	281	Bausch & Lomb Optical Co.[1]	June 9, 1911	52,200.00	52,200.00	June 15, 1911	17,168.00	Apr. 10, 1912
138	312	Edison Storage Battery Co.[1]	June 22, 1911	4,220.00	4,220.00	June 28, 1911	4,220.00	Mar. 9, 1912
[2]145	315	Ingersoll-Rand Co.[1]	June 27, 1911	72,250.00	74,250.00	.....do	.....	.....
11	69	The Bristol Co.[1]	July 17, 1912	874.80	874.80	July 21, 1911	873.05	Oct. 28, 1911
21	92	Vickers (Ltd.), H. C. Sheridan, agent[1]	Aug. 21, 1911	6,300.00	6,300.00	Aug. 23, 9111	6,354.00	Mar. 7, 1912
35	112	Bausch & Lomb Optical Co.[1]	Aug. 30, 1911	26,100.00	26,100.00	Sept. 6, 1911	.....	.....
40	139	Carnegie Steel Co.[1]	Sept. 16, 1911	([3])	3,640.00	Sept. 21, 1911	3,793.75	Dec. 28, 1911
42	146	Bausch & Lomb Optical Co.[1]	Sept. 24, 1911	7,000.00	7,000.00	Sept. 30, 1911	.....	.....
41	147	Keuffel & Esser Co.[1]	Sept. 27, 1911	550.80	550.80	Oct. 3, 1911	.....	.....
38	148	Bausch & Lomb Optical Co.[1]	Sept. 14, 1911	5,850.00	5,850.00	Oct. 4, 1911	.....	.....
55	152	.....do.[1]	Oct. 9, 1911	21,120.00	21,120.00	Oct. 11, 1911	.....	.....
54	153	.....do.[1]	.....do	9,576.00	9,576.00	.....do	.....	.....
3½	158	Carnegie Steel Co.[1]	Aug. 18, 1911	4,117.50	4,117.50	Oct. 14, 1911	4,983.20	Feb. 26, 1912
81	188	Ingersoll-Rand Co.[1]	Nov. 11, 1911	18,650.00	18,650.00	Nov. 17, 1911	.....	.....
117	272	Bausch & Lomb Optical Co.[1]	Jan. 22, 1912	7,280.00	7,280.00	Jan. 27, 1912	.....	.....
119	275	Carnegie Steel Co.[1]	Jan. 24, 1912	1,825.00	1,825.00	Jan. 21, 1912	.....	.....
124	286	Bausch & Lomb Optical Co.[1]	Feb. 12, 1912	4,540.00	4,540.00	Feb. 17, 1912	.....	.....
140	342	Chas. Cory & Son[1]	Mar. 16, 1912	7,510.00	7,510.00	Mar. 21, 1912	.....	.....
71	316	Atlas Ball Co	Mar. 5, 1912	900.00	900.00	Mar. 13, 1912	.....	.....
.....	.....	Jas. B. Lamble Co	.....	2,160.00	.....	.....	.....	.....
.....	.....	Knox & Bro	.....	2,088.00	.....	.....	.....	.....
.....	.....	Standard Roller Bearing Co	.....	1,944.00	.....	.....	.....	.....
.....	.....	Rudolph & West Co	.....	1,848.00	.....	.....	.....	.....
.....	.....	Rawles - Cobb Co.[4]	.....	816.00	.....	.....	.....	.....
162	393	Bausch & Lomb Optical Co.[1]	Apr. 19, 1912	3,600.00	3,600.00	May 1, 1912	.....	.....
161	398	The Sperry Gyroscope Co.[1]	.....do	5,470.00	5,470.00	Apr. 30, 1912	.....	.....

[1] Competition waived.
[2] Competition is waived on Requisition 145 in favor of Ingersoll-Rand Co.
[3] 125 pound more or less.
[4] Rejected on account of time of delivery.

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Contracts entered into with the Bureau of Supplies and Accounts.

Requisitions.					Schedule.	Class.	Opening.
From.	No.	Date.	Item No.	Articles.			
Bureau of Ordnance	25	Aug. 1, 1911	1	Electrical equipments: For New York: 10 upper hoist equipments. 10 lower hoist motors and brakes. 10 elevating equipments. 10 rammer equipments. For Texas: 10 upper hoist equipments. 10 lower hoist motors and brakes. 10 elevating equipments. 10 rammer equipments.	3854	93	Sept. 12, 1911
Navy yard, Washington.	41	Jan. 19, 1912	1-6	Silent chain wheels	4334	91	Feb. 27, 1912
Do	54	Feb. 7, 1912	1	15,850 pounds, 46 recoil cylinders.	4397	136	Apr. 2, 1912
			2	19,500 pounds, 46 slide tubes.			
			1	See above			
			2	do			
			1a	46,300 pounds, 46 pieces			
			2a	106,260 pounds, 46 forgings			
			1a	See above			
			1	do			
			2	do			
			1a	do			
			2a	97,060 pounds			
			1a	See above			
			2a	99,820 pounds			
			1a	See above			
			2a	103,729 pounds			
			1	See above			
			1	do			
			2	do			
Indian Head	14	Oct. 9, 1911	1-3	51,000 feet white oak	4054	20	Nov. 21, 1911
Do			4-6	3,200 feet sweet gum	4054	21	do
Do	39	Feb. 23, 1912	1-3	51,000 feet white oak 54,187 feet 51,000 feet	4424	151	Apr. 16, 1912

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Appropriation "Increase of the Navy, armor and armament."

Bidder.	Bids. Unit price.	Total of items.	Total of bids.	Contracts awarded. No.	Date.	Amount.
46. Diehl Manufacturing Co.	$1,415.00	$14,150.00	$77,500.00	16096	Dec. 16, 1911	$77,500.00
	710.00	7,100.00				
	860.00	8,600.00				
	885.00	8,850.00				
	1,420.00	14,200.00				
	711.00	7,110.00				
	862.00	8,620.00				
	887.00	8,870.00				
61. General Electric Co.	.....	.....	80,336.00	.....	.....	.....
53. Earle Gear & Machine Co.	900.00	.....	900.00	16787	Mar. 21, 1912	900.00
62. Richard W. Geldart	.....	.....	947.60	.....	.....	.....
10. S. A. Ashman & Son Co., each.	71.00	3,266.00	3,266.00	.....	.....	.....
No bid	.....	.....	.....	.....	.....	.....
20. Bethlehem Steel Co.	.25	3,962.50	11,177.50	.....	.....	.....
	.37	7,215.00				
20. Alternate	.07	3,241.00	9,350.95	.....	.....	.....
	.05¾	6,109.95				
111. Heppenstall Forge & Knife Co.	.0398	1,819.59	1,819.59	.....	.....	.....
139. Midvale Steel Co.	.24	3,804.00	10,629.00	.....	.....	.....
	.35	6,825.00				
139. Alternate	.0395	1,828.85	7,603.92	.....	.....	.....
	.0595	5,775.07				
179. Pollak Steel Co.	.03949	1,828.38	5,770.27	.....	.....	.....
	.03949	3,941.89				
224. Standard Forgings Co.	.0275	1,273.25	4,125.80	17151	.....	1,273.25
	.0275	2,852.55				
271. Erie Forge Co.	.21	3,328.50	3,328.50	.....	.....	.....
276. National Tube Co., each	88.40	4,066.40	8,914.80	17106	May 16, 1912	4,848.40
	105.40	4,848.40				
24. L. A. Clarke & Son	40.90	.....	2,085.90	16098	Dec. 11, 1911	1,830.90
34. Thos. E. Coale Lumber Co.	50.00	.....	2,550.00			
45. G. Elias & Bro	35.90	.....	1,830.90			
47. Chas. Este Co.	50.00	.....	2,550.00			
58. Wm. D. Gill & Son	42.45	.....	2,164.95			
61. Hamilton Lumber Co.	42.00	.....	2,145.36			
71. Geo. R. Johnson	42.45	.....	2,164.95			
95. W. S. Mercereau Lumber Co.	40.00	.....	2,043.26			
117. Robinson Lumber, Veneer & Box Co.	48.00	.....	2,448.00			
145. R. A. & J. J. Williams	63.25	.....	3,225.75			
150. Watson & Pittinger	43.00	.....	2,193.00			
24. L. A. Clarke & Son	32.50	.....	104.00	0-922	Dec. 5, 1911	104.00
45. G. Elias & Bro	45.00	.....	144.00			
117. Robinson Lumber, Veneer & Box Co.	48.00	.....	153.60			
5. Acorn Lumber Co.	48.00	.....	2,448.00	17087	May 6, 1912	1,989.00
14. A. S. Bacon & Son	44.90	.....	2,433.00			
35. G. Elias & Bro	37.90	.....	[1] 1,932.90			
42. W. T. Galliher & Bro.	39.00	.....	1,989.00			
46. Galliher & Huguely	44.80	.....	2,284.80			
48. Wm. D. Gill & Son	46.25	.....	2,358.75			
53. Hamilton Lumber Co.	47.00	.....	2,397.00			
138. Washington Wood Work Co.	.....	.....	2,014.98			

[1] Rejected on account of arrears in delivery.

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Contracts entered into with the Bureau of Supplies and Accounts. Appro

Requisitions.					Schedule.	Class.	Opening.
From.	No.	Date.	Item No.	Articles.			
Indian Head	78	May 6, 1911	1-3	51,000 feet white oak 54,187 feet 51,000 feet	3643	118	June 13, 1911
Torpedo Station	231	Mar. 17, 1911	1 2 3 4 3 4	100 accumulator flasks 35 separator flasks 100 accum. flask heads 35 separator flask heads See above do	3461	92 93	Apr. 18, 1911 do .....
Do	246	.....	1-21	Springs, miscellaneous	3510	101	May 9, 1911
Do	253	Apr. 6, 1911	1 2 1 2	75 accum. flask forgings 75 accum. head forgings See above do	3510	102	do
Do	279	May 15, 1911	1 2 3 4	42,500 pounds gun cotton 1,000 pounds gun cotton 1,150 pounds gun cotton 600 pounds gun cotton	3688	121	June 27, 1911
Do	291	June 3, 1911	1	60 Mk I Gyro gears	3733	85	July 25, 1911
Do	292	do	1	80 Mk VI torpedo directors	3759	161	do
Do	293	do	1 2 1 2	140 fuel-filling funnels 140 graduated beakers See above do	3733	88	do ....
Do	294	do	1	130 torpedo deck trucks	3733	87	July 25, 1911

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priation "Increase of the Navy, armor and armament"—Continued.

Bids.				Contracts awarded.		
Bidder.	Unit price.	Total of items.	Total of bids.	No.	Date.	Amount.
37. L. A. Clarke & Son	$35.00	.....	$1,836.00	15204	July 6, 1911	$1,836.00
68. Chas. Este Co.	42.50	.....	2,167.50			
70. G. Elias & Bro.	36.75	.....	1,874.25			
84. Wm. D. Gill & Son	53.70	.....	2,738.70			
91. Wm. T. Galliher & Bro.	54.00	.....	2,754.00			
109. Hamilton Lumber Co.	49.50	.....	2,682.26			
114. Geo. R. Johnson	30.95	.....	[1] 1,578.45			
191. Henry Sondheimer	64.00	.....	3,264.00			
194. South Atlantic Lumber Co.	48.00	.....	2,948.00			
228. R. A. & J. J. Williams	51.75	.....	2,639.25			
232. Washington Wood Work Co.	44.10	.....	2,249.10			
123. National Tube Co.	25.00 19.50	$2,500.00 682.50	3,182.50	14840	May 11, 1911	3,182.50
115. Midvale Steel Co.	9.75 8.50	975.00 297.50	1,272.50	.....	.....	.....
123. National Tube Co.	7.95 6.55	795.00 229.25	1,024.25	14840	May 11, 1911	1,024.25
61. E. F. Kirwan & Co.	.....	.....	198.75	14939	May 29, 1911	198.75
116. Wallace Barnes Co.	.....	.....	366.50			
117. Miller Wire Spring Co.	.....	.....	201.07			
73. Midvale Steel Co.	.....	.....	.....	.....	.....	.....
	9.25	.....	693.75	.....	.....	.....
81. National Tube Co.	25.00 7.95	1,875.00 596.25	2,471.25	14946	May 29, 1911	2,471.25
56. E. J. du Pont de Nemours Powder Co.	.517 .517 .517 1.847	21,972.00 517.00 594.55 1,108.20	24,192.25	15438	Aug. 12, 1911	24,192.25
14. E. W. Bliss Co.	450.00	.....	27,000.00	15568	Sept. 11, 1911	16,896.00
188. Subtarget Gun Co.	281.60	.....	16,896.00			
4. American & British Manufacturing Co.	389.19	.....	30,415.20	15604	.....do.....	15,440.00
116. Keuffel & Esser Co.	193.00	.....	15,440.00			
173. Pratt & Whitney	235.00	.....	18,800.00			
177. Queen & Co. (Inc.)	448.50	.....	35,880.00			
188. Subtarget Gun Co.	305.40	.....	24,432.00			
205. Precision Thermometer & Instrument Co.	180.00	.....	[2] 14,400.00			
108. Jenkins Manufacturing Co.	2.35	329.00	476.00	0-549	Aug. 25, 1911	476.00
.....	1.05	147.00				
202. F. J. Stokes Machine Co.	6.50 1.10	910.00 154.00	1,064.00	.....	.....	.....
4. American & British Manufacturing Co.	72.69	.....	9,449.70	15557	Sept. 2, 1911	3,893.50
19. G. H. Burnham	29.95	.....	3,893.50			
80. Howe Scale Co.	37.00	.....	4,810.00			
81. Wm. Gardam & Son (Inc.)	59.50	.....	7,735.00			
148. Newport Foundry & Machine Corporation.	40.19	.....	5,225.00			
171. Peckham Co.	39.80	.....	5,174.00			
188. Subtarget Gun Co.	75.28	.....	9,786.40			
202. F. J. Stokes Machine Co.	33.70	.....	4,381.00			
218. Vermilye & Power	29.95	.....	3,893.50			

[1] Rejected on account of modifications.

[2] Rejected on time for delivery.

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Contracts entered into with the Bureau of Supplies and Accounts. Appro

Requisitions.					Schedule.	Class.	Opening.
From.	No.	Date	Item No.	Articles.			
						162	July 25, 1911
			1	50 torpedo test pumps....			
			2	60 Gyro adjusting stands.			
			3	120 torpedo tail supports.			
			4	15 torpedo pendant adjusting stands.			
			5	160 torpedo sluing tools...			
			6	125 wing nuts.....			
			7	50 wing nuts.....			
			3	(See above).....			
			6	.....do.....			
			7	.....do.....			
Torpedo Station...	295	June 3, 1911	2	.....do.....	3759		
			3	.....do.....			
			4	.....do.....			
			5	.....do.....		163	.....do.....
			6	.....do.....			
			7	.....do.....			
			2	.....do.....			
			3	.....do.....			
			4	.....do.....			
			5	.....do.....			
			6	.....do.....			
			7	.....do.....			
Do.....	56	Oct. 11, 1911	1	200 brass bulkhead stampings.	4054	15	Nov. 21, 1911
Do.....	65	Oct. 30, 1911	1	Rework 20,000 guncotton blocks.	4108	120	Dec. 12, 1911

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priation "Increase of the Navy, armor and armament"—Continued.

Bids.				Contracts awarded.		
Bidder.	Unit price.	Total of items.	Total of bids.	No.	Date.	Amount.
14. E. W. Bliss Co.	$127.50		$6,375.00			
94. Harry Hunt	29.62		1,481.00			
171. Peckham Co	36.00		1,800.00			
173. Pratt & Whitney Co	50.00		2,500.00	15605	Sept. 11, 1911	$1,225.00
177. Queen & Co. (Inc.)	47.50		2,375.00			
188. Subtarget Gun Co	27.76		1,388.00			
205. Precision Thermometer & Instrument Co.	24.50		1,225.00			
14. E. W. Bliss Co	125.00	$7,500.00	23,537.50			
	75.00	9,000.00				
	110.00	1,650.00				
	20.00	3,200.00				
	12.50	1,562.50				
	12.50	625.00				
19. G. H. Burnham	21.00	2,520.00				
	6.00	750.00				
	6.00	300.00				
188. Subtarget Gun Co	108.23	6,493.70				
	37.35	4,482.00				
	30.40	1,206.00				
	11.25	1,800.00				
205. Precision Thermometer & Instrument Co.	5.06	632.50		15568	Sept. 11, 1911	885.50
	5.06	253.00		15568		
	54.50	3,270.00		15605	do	
	59.50	7,140.00				
	59.50	892.50		15605	Sept. 11, 1911	
	8.75	1,400.00		15605	do	5,562.50
	6.00	750.00				
	6.00	300.00				
72. Jenkins Manufacturing Co.	2.60	520.00	520.00	16099	Dec. 12, 1911	520.00
34. E. I. Du Pont de Nemours Powder Co.	.16	3,200.00	3,200.00	16186	Dec. 26, 1911	3,200.00

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Comparative table of bids for submarines Nos. 36–39, opened Sept. 1, 1911 (Department of Construction and Repair).

[Authorized by Congress, act approved Mar. 4, 1911; appropriation $2,000,000. Circular issued June 21, 1911.]

Bidders.	Designation of design.	Price per boat built on east coast.				Time of delivery (months) built on east coast.			
		1 boat.	2 boats.	3 boats.	4 boats.	1 boat.	2 boats.	3 boats.	4 boats.
Lake Torpedo Boat Co.[1]	A-7 (same as Turbot, except A—7 has one torpedo tube aft, omniscope, diving compartment, and bow rudders omitted flying bridge added, machinery rearranged).	$450,000	$445,000	$442,000	$440,000	22	22, 23	22, 23, 24	22, 23, 24, 25
Do[1]	E (axis of boat horizontal from amidships aft, and rises forward)	430,500	421,500	419,000	416,500	22	22, 23	22, 23, 24	22, 23, 24, 25
Do[1]	E-1 (same as type E except as to torpedo tubes and torpedoes)	446,500	436,500	434,000	431,500	22	22, 23	22, 23, 24	22, 23, 24, 25
Do[1]	E-2 (same as type E except as to conning towers. E-2 has two, one extensible).	433,500	423,500	421,000	418,500	22	22, 23	22, 23, 24	22, 23, 24, 25
Do[1]	E-3 (same as type E-2 except as to torpedo tubes and torpedoes)	448,500	438,500	436,000	433,500	22	22, 23	22, 23, 24	22, 23, 24, 25
Do[1]	E-4 (same as type E-2 except as to conning tower. E-4 has one fixed).	430,500	420,000	417,500	415,000	22	22, 23	22, 23, 24	22, 23, 24, 25
Do[1]	E-5 (same as type E-4 except as to torpedo tubes and torpedoes)	445,500	435,000	432,500	430,000	22	22, 23	22, 23, 24	22, 23, 24, 25
Do[1]	F (same as type E except axis of boat rises forward and aft and one stern torpedo tube fitted).	446,000	436,000	433,500	431,000	22	22, 23	22, 23, 24	22, 23, 24, 25
Do[1]	F-1 (same as type E-1 except axis of boat rises forward and aft and one stern torpedo tube fitted).	461,000	451,000	448,000	446,000	22	22, 23	22, 23, 24	22, 23, 24, 25
Do[1]	F-2 (same as type E-2 except axis of boat rises forward and aft and one stern torpedo tube fitted).	448,000	438,000	435,500	433,000	22	22, 23	22, 23, 24	22, 23, 24, 25
Do[1]	F-3 (same as type E-3 except axis of boat rises forward and aft and one stern torpedo tube fitted).	463,000	453,000	450,500	448,000	22	22, 23	22, 23, 24	22, 23, 24, 25
Do[1]	F-4 (same as type E-4 except axis of boat rises forward and aft and one stern torpedo tube fitted).	445,000	435,000	432,500	430,000	22	22, 23	22, 23, 24	22, 23, 24, 25
Do[1]	F-5 (same as type E-5 except axis of boat rises forward and aft and one stern torpedo tube fitted).	460,000	450,000	447,500	445,000	22	22, 23	22, 23, 24	22, 23, 24, 25
Electric Boat Co.	No. 32 (essentially duplicate of design for submarines 32–35. Stern torpedo tubes omitted).	524,000	509,000	496,000	485,000	24	24, 25	24, 25, 26	24, 25, 26, 27
		483,000	(2)	(2)	(2)	24	.....	.....	.....
		.....	481,000	(2)	(2)	.....	24, 25	.....	.....
		496,000	.....	.....	.....	24	.....	.....	.....

[1] Lake Co.'s prices do not include spare parts.

[2] In combination with Pacific coast bid.

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CONTRACT REQUIREMENTS FOR BOATS UNDER CONSTRUCTION.

	Contract price.				Contract time.			
Submarines Nos. 32-35 (30-B; Haddock, Cachelot, Orca, Walrus; Electric Boat Co.)								
Submarine No. 31 (Turbot; Lake Co.)	$455,000				29			
Submarines Nos. 28-30 (26-A; Sea Wolf, Nautilus, Garfish; Electric Boat Co.)								
Submarine No. 27 (Tuna; Lake Co.)	410,000				28			
Submarine No. 26 (Thrasher; Am. Laur. Co.)	437,500				30			
Submarines Nos. 24, 25 (19-A; Skipjack, Sturgeon; Electric Boat Co.)	375,000	$375,000			25	26		
Submarines Nos. 20-23 (20-B; Carp, Barracuda, Pickerel, Skate; Electric Boat Co.)								
Lake submarine (500 tons; Seal; Lake Co.)								

Bidders.	Designation of design.	Price per boat built on west coast.[1]				Time of delivery (months) built on west coast.[1]			
		1 boat.	2 boats.	3 boats.	4 boats.	1 boat.	2 boats.	3 boats.	4 boats.
Electric Boat Co.	No. 32 (essentially duplicate of design for submarines 32-35. Stern torpedo tubes omitted).	$550,000	$531,000	$514,000	$498,000	24	24, 25	24, 25, 26	24, 25, 26, 27
				503,000				25, 26, 27	
			515,000				26, 27		
			523,000				25, 26		

[1] No bid submitted by Lake Torpedo Boat Co. for west coast.

CONTRACT REQUIREMENTS FOR BOATS UNDER CONSTRUCTION.

	Contract price.				Contract time.			
Submarines Nos. 32-35 (30-B; Haddock, Cachelot, Orca, Walrus; Electric Boat Co.)	$469,000	$469,000	$501,000	$501,000	25	25	26	27
Submarine No. 31 (Turbot; Lake Co.)								
Submarines Nos. 28-30 (26-A; Sea Wolf, Nautilus, Garfish; Electric Boat Co.)	491,000	491,000	491,000		29	29	30	
Submarine No. 27 (Tuna; Lake Co.)								
Submarine No. 26 (Thrasher; Am. Laur. Co.)								
Submarines Nos. 24, 25 (19-A; Skipjack, Sturgeon; Electric Boat Co.)								
Submarines Nos. 20-23 (20-B; Carp, Barracuda, Pickerel, Skate; Electric Boat Co.)	454,740	454,740	454,740	454,740	27	27	29	29
Lake submarine (500 tons; Seal; Lake Co.)								

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NAVY DEPARTMENT,
BUREAU OF SUPPLIES AND ACCOUNTS,
Washington, D. C., May 7, 1912.

Statement of contracts for armor and armament entered into since March 4, 1911, chargeable to the appropriation "Increase of the Navy, armor and armament."

	Amount of contract.	Amount paid.
Midvale Steel Co., Apr. 20, 1911, V 19 C 56; two 14-inch guns	$149,800.00	$80,557.50
Bethlehem Steel Co., Apr. 22, 1911, V 19 C 68; two 14-inch guns	149,540.00	67,293.00
Midvale Steel Co., June 2, 1911, V 19 C 74; two 14-inch mounts	88,156.00	15,868.08
Midvale Steel Co., June 22, 1911, V 19 C 75; 14-inch gun forgings	131,151.96	131,131.56
Bethlehem Steel Co., July 5, 1911, V 19 C 93; ten 5-inch guns	96,200.00	43,290.00
Bethlehem Steel Co., July 5, 1911, V 19 C 94; 14-inch gun forgings	131,151.96	130,746.56
Bethlehem Steel Co., July 5, 1911, V 19 C 95; two 14-inch mounts	88,000.00	.....
Midvale Steel Co., July 6, 1911, V 19 C 99; ten 5-inch guns	96,200.00	43,290.00
Midvale Steel Co., Oct. 18, 1911, V 19 C 153; twenty-five 4-inch guns	175,000.00	22,050.00
Crucible Steel Co., Oct. 17, 1911, V 19 C 163; 5-inch gun forgings	38,800.89	.....
Bethlehem Steel Co., Oct. 30, 1911, V 19 C 172; 14-inch and 5-inch gun forgings	534,175.70	465,224.97
Midvale Steel Co., Nov. 9, 1911, V 19 C 175; 14-inch and 5-inch gun forgings	534,175.70	477,290.87
Bethlehem Steel Co., Nov. 7, 1911, V 19 C 180; 4-inch guns	175,000.00	55,125.00
Midvale Steel Co., Jan. 15, 1912, V 20 C 4; armor plate	2,218,656.00	291,919.86
Bethlehem Steel Co., Jan. 15, 1912, V 20 C 7; armor plate	2,160,384.00	.....
Carnegie Steel Co., Jan. 15, 1912, V 20 C 8; armor plate	2,194,572.00	.....
Midvale Steel Co., Jan. 24, 1912, V 20 C 15; three 14-inch guns	197,925.00	29,668.74
Bethlehem Steel Co., Jan. 26, 1912, V 20 C 21; three 14-inch guns	223,050.00	16,728.75

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Statement of bids, contracts, etc., under appropriation "Increase of the Navy, armor and armament," act of Mar. 4, 1911.

Bidder.	Material.	Bid.			Contract.			Total amount of contract.
		Quantity.	Date.	Amount.	Quantity.	Date.	Amount.	
Midvale Steel Co	14-inch guns	10	Nov. 23, 1910	$74,900 each	2	Apr. 20, 1911	$74,900 each	$149,800.00
Bethlehem Steel Co	do	10	Nov. 17, 1910	$74,770 each	2	Apr. 22, 1911	$74,770 each	149,540.00
Army Ordnance (Watervliet Arsenal).	do	5	Nov. 28, 1910	$46,092.65				(1)
		10		$84,826.50				
Midvale Steel Co	14-inch mounts	4	Mar. 14, 1911	$44,078 each	2	June 2, 1911	$44,078 each	88,156.00
Bethlehem Steel Co	do	4	do	$44,000 each	2	July 6, 1911	$44,000 each	88,000.00
Midvale Steel Co	14-inch gun forgings	6 sets	May 12, 1911	Nickel steel, 30 c. lb Gun steel, 21 c. lb	3 sets	June 22, 1911	Nickel steel, 30 c. lb Gun steel, 21 c. lb	131,151.96
Bethlehem Steel Co	do	6 sets	May 3, 1911	Nickel steel, 30 c. lb Gun steel, 21 c. lb	3 sets	July 5, 1911	Nickel steel, 30 c. lb Gun steel, 21 c. lb	131,151.96
Midvale Steel Co	5-inch guns	20	May 27, 1911	$9,620 each	10	July 6, 1911	$9,620 each	96,200.00
Bethlehem Steel Co	do	20	May 29, 1911	$9,600 each [2]	10	July 5, 1911	$9,620 each	96,200.00
Midvale Steel Co	4-inch guns	50	Oct. 2, 1911	$7,000 each	25	Oct. 18, 1911	$7,000 each	175,000.00
Bethlehem Steel Co	do	50	do	$7,000 each	25	Nov. 7, 1911	$7,000 each	175,000.00
Army Ordnance (Watervliet Arsenal).	do	50	Sept. 11, 1911	$96,435.60 [3]				
Crucible Steel Co	5-inch gun forgings	9 sets	Sept. 25, 1911	Nickel steel, 29½ c. lb Gun steel, 21 c. lb	9 sets	Oct. 17, 1911	Nickel steel, 29½ c. lb Gun steel, 21 c. lb	38,800.89
Bethlehem Steel Co	do	53 sets	Sept. 26, 1911	Nickel steel, 30 c. lb Gun steel, 21 c. lb	22 sets	Oct. 30, 1911	Nickel steel, 30 c. lb Gun steel, 21 c. lb	534,175.70
	14-inch gun forgings	20 sets			10 sets			
Midvale Steel Co	5-inch gun forgings	53 sets	Sept. 19, 1911	Nickel steel, 30 c. lb Gun steel, 21 c. lb	22 sets	Nov. 9, 1911	Nickel steel, 30 c. lb Gun steel, 21 c. lb	534,175.70
	14-inch gun forgings	20 sets			10 sets			
Midvale Steel Co	Armor	Class A, 13,104 tons Class A turret, 1,674 tons. Class B, 445 tons Class C, 130 tons	Jan. 3, 1912	$420 per ton $480 per ton $470 per ton [4] $508 per ton	4,509 tons 527 tons 121 tons 32 tons	Jan. 15, 1912	$420 per ton $480 per ton $460 per ton [4] $508 per ton	2,218,656.00
Carnegie Steel Co	do	Class A, 13,104 tons Class A turret, 1,674 tons. Class B, 445 tons Class C, 130 tons	do	$420 per ton $480 per ton $460 per ton $508 per ton	4,448 tons 483 tons 157 tons 44 tons	do	$420 per ton $480 per ton $460 per ton $508 per ton	2,194,572.00
Bethlehem Steel Co	do	Class A, 13,104 tons Class A turret, 1,674 tons. Class B, 445 tons Class C, 130 tons	Dec. 26, 1911	$420 per ton $480 per ton $470 per ton $508 per ton	4,139 tons 664 tons 166 tons 53 tons	do	$420 per ton $480 per ton $460 per ton [4] $508 per ton	2,160,384.00

[1] Total estimated cost, forgings to be furnished by Navy Department requisition No. 107, of Apr. 28, 1911, made to cover manufacture of 6 at the estimated cost of $9,219 each; total, $55,314.
[2] Bid reduced by letter June 12 to meet department's offer of contract at same figure as lowest bidder.
[3] Total estimate, all forgings to be furnished by Navy Department.
[4] Award of contract for class B contingent on acceptance of price quoted by lowest bidder.

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Statement of bids, contracts, etc., under appropriation "Increase of the Navy, armor and armament," act of Mar. 4, 1911—Continued.

Bidder.	Material.	Bid.			Contract.			Total amount of contract.
		Quantity.	Date.	Amount.	Quantity.	Date.	Amount.	
Midvale Steel Co	14-inch guns	6	Nov. 29, 1911	$74,925 each [1]				
				$65,975 each [2]	3	Jan. 24, 1912	$65,975 each	$197,925.00
Bethlehem Steel Co	do	6	do	$74,350 each [1]	3	Jan. 26, 1912	$74,350 each	223,050.00
				$65,350 each [2]				
Army Ordnance (Watervliet Arsenal).	do	6	Dec. 18, 1911	$57,414 [3]				
				$50,461 [4]				

[1] With breech mechanisms, but without spare parts or accessories.
[2] Without breech mechanism, spare parts, and accessories.
[3] Total estimate, with breech mechanisms, but without spare parts and accessories, all forgings to be furnished by the Navy Department.
[4] Total estimate, without breech mechanisms, spare parts, and accessories, all forgings to be furnished by the Navy Department.

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 784.

IMMIGRATION STATION IN CHICAGO.

LETTER

FROM

THE SECRETARY OF COMMERCE AND LABOR,

GIVING DEPARTMENT'S VIEWS ON H. R. 21220 IN RESPONSE TO INQUIRY OF THE CHAIRMAN OF THE COMMITTEE ON IMMIGRATION AND NATURALIZATION.

JUNE 3, 1912.—Referred to the Committee on Immigration and Naturalization and ordered to be printed.

DEPARTMENT OF COMMERCE AND LABOR,
Washington, June 1, 1912.

The SPEAKER OF THE HOUSE OF REPRESENTATIVES,
Washington, D. C.

SIR: I have the honor to acknowledge the receipt of a communication dated May 27, 1912, addressed to me by Hon. John L. Burnett, chairman of the Committee on Immigration and Naturalization of the House of Representatives, in which he requests an expression of opinion with regard to the bill (H. R. 21220) entitled "A bill to extend the power of the Commissioner General of Immigration, subject to the approval of the Secretary of Commerce and Labor," the terms of the measure including a provision for the establishment and maintenance of an immigration station in the city of Chicago.

In compliance with Rule 41 of House Rules, I beg to reply to this request by referring to House Document No. 764, Sixty-second Congress, second session, in which is printed a copy of a letter from this department, dated May 23, 1912, with which was transmitted an estimate substantially similar in terms to the provision of section 2 of the bill under discussion. The reasons supporting that estimate may likewise be applied to the bill H. R. 21220, and the only suggestion that I can add is that the term "alien immigrants," as used on line 12, page 1, of the bill, be amended to read "aliens," thereby conforming to the language as used in the immigration act of February 20, 1907, to which the first section of the pending bill is an amendment.

Respectfully,

CHARLES NAGEL,
Secretary.

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62D CONGRESS, 2d Session } HOUSE OF REPRESENTATIVES { DOCUMENT No. 827

TREASURY DEPARTMENT

Public Health and Marine-Hospital Service of the United States

PUBLIC HEALTH BULLETIN No. 51

NOVEMBER, 1911

THE CAUSATION AND PREVENTION OF TYPHOID FEVER

WITH SPECIAL REFERENCE TO CONDITIONS OBSERVED IN YAKIMA COUNTY WASHINGTON

BY

L. L. LUMSDEN

Passed Assistant Surgeon

PREPARED BY DIRECTION OF THE SURGEON GENERAL

WASHINGTON
GOVERNMENT PRINTING OFFICE
1912

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House Concurrent Resolution No. 43.

Resolved by the House of Representatives (the Senate concurring), That there be printed fifty thousand copies of Public Health Bulletin numbered fifty-one, with illustrations, entitled "The Causation and Prevention of Typhoid Fever," thirty-five thousand for the use of the House of Representatives and fifteen thousand for the use of the Senate.

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CAUSATION AND PREVENTION OF TYPHOID FEVER

WITH SPECIAL REFERENCE TO CONDITIONS OBSERVED IN YAKIMA COUNTY, WASH.

[From the Hygienic Laboratory.]

By Passed Assistant Surgeon L. L. LUMSDEN.

GENERAL DISCUSSION.

Typhoid fever is a preventable disease. Compared with many of the other infectious and contagious diseases it is a readily preventable disease.

The measures to prevent typhoid fever are well known. A problem in the average community under a democratic form of government is how to get intelligent public sentiment sufficiently aroused to make the enforcement of the necessary measures feasible.

In the United States about 450,000 persons are incapacitated and about 35,000 are killed by typhoid fever each year. A large proportion of the cases are in persons at their period of maximum earning capacity. Thus the Nation suffers from this disease a tremendous economic loss, amounting to many times over what the work required to prevent such loss would cost.

Typhoid fever is a filth-borne disease. It is caused by germs which are parasites and which depend for their perpetuation upon multiplication in the bodies of human beings. The germs are discharged from the bodies of persons in the stools and urine. To cause the disease in other persons these germs must be swallowed. Every person who has typhoid fever has recently swallowed some typhoid germs which have come in some way from the excreta of some infected person. Unless we put into our mouths and swallow something which has been soiled or contaminated with human filth we will not have typhoid fever.

Typhoid germs, or typhoid bacilli as they are called, are very minute organisms. Twelve thousand of them placed end to end measure only about 1 inch. On account of their minute size many of them may be contained in a small particle of matter. A drop

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of urine or a few grains of feces from an infected person may contain hundreds, or even thousands, of typhoid germs. A house fly having had access to the contents of a bed pan or a privy used by an infected person may carry enough typhoid germs on its legs and body to infect large quantities of foods and beverages and so cause a large number of persons to be exposed to typhoid infection. Fingers mechanically clean—that is, free from gross dirt—may carry typhoid germs to mouths directly or indirectly through foods. Water, clear, sparkling, and free from objectionable taste and odor may contain them. Milk apparently clean and sweet and rich may be teeming with typhoid germs.

Every person who swallows typhoid germs does not have typhoid fever. Neither does every person who inhales or swallows tubercle germs have tuberculosis; nor does every person who gets diphtheria bacilli into the mouth or nose have diphtheria. Disease germs, like other seeds, must get into favorable soil for growth and multiplication to occur. In epidemics of typhoid fever caused by heavily infected public water supplies it is unusual for more than one out of ten of the persons who drink the water to have typhoid fever. As a rule the proportion is smaller, frequently not more than one per hundred of the population exposed. Science has not yet determined definitely just what constitutes individual susceptibility to typhoid infection. Epidemiological evidence is opposed to the view that it is a matter of general health. In extensive outbreaks, or epidemics, when many persons presumably are equally exposed to infection, the disease appears to attack as large a proportion of those in apparently vigorous health as of those in obviously poor general health. It is quite possible that a person who is highly resistent at a given time may be highly susceptible the next year, month, week, or even the next day. One who has had an attack of the disease should not take any unnecessary risks of exposure to infection, because some persons have two or more attacks of the disease.

CAUSATION OF THE DISEASE.

When a susceptible person swallows typhoid germs the germs multiply in the alimentary canal, and from the intestine they invade the blood and are carried throughout the body. In the blood and tissues the germs elaborate a poison whose effects on the different tissues and organs of the body give rise to the symptoms of the disease. Persons sick with the disease discharge myriads of living typhoid germs in the feces and urine and rarely some in the sputum. Every typhoid patient, therefore, should be regarded as a reservoir of infection and the discharges from the body treated as a very dangerous poison. (See pp. 50 to 53.) The disinfection of the dis-

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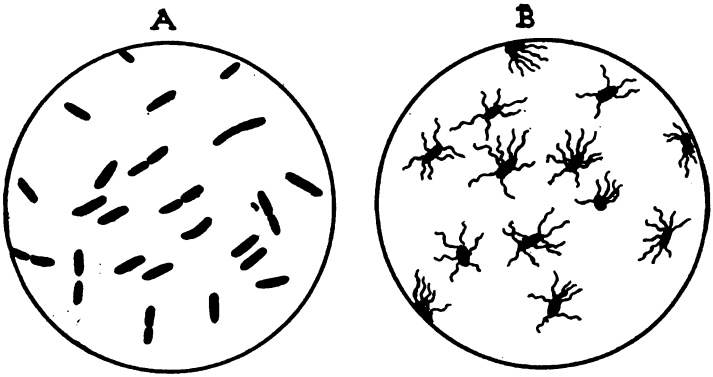

FIG. 1.—TYPHOID GERMS AS SEEN WHEN MAGNIFIED 1,000 TIMES.

A. The germs as usually seen under the microscope. B. The germs stained to show the fine hairs (flagellae) by means of which the germ moves in a liquid.

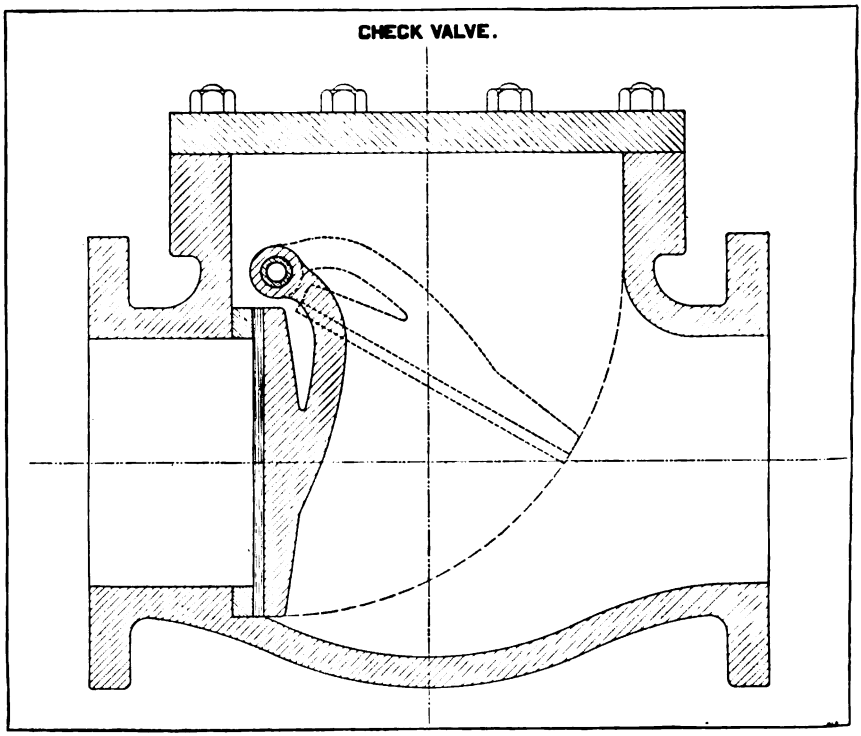

FIG. 2.—A CHECK VALVE SUCH AS WAS DEPENDED UPON TO KEEP THE WATER IN THE SPRINKLER SYSTEM IN THE CASCADE MILL YARDS FROM ENTERING THE CITY WATER MAINS.

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charges as they leave the body of the patient may be accomplished simply and with very little expense, but if proper precautionary measures are not carried out at the bedside the infection in the discharges from a single patient may be disseminated by various agents, such as fingers, flies, foods, and water, and cause the disease in many persons.

NATURE AND VIABILITY OF THE INFECTIOUS AGENT.

Typhoid germs are plants belonging to the general group of plants known as bacteria. Bacteria exist as separate cells, thus differing from higher forms of plant life which are made up of cells gathered together into groups to make fibers, leaves, stems, roots, etc. Bacteria in general are so small that the individuals can not be seen by the unaided human eye, and a glassful of water containing a considerable number in each drop may still appear perfectly clear. Under the magnification given by a powerful microscope, however, the bacteria become readily visible, and typhoid bacilli present the appearance shown in figure 1.

Typhoid bacilli under favorable conditions multiply rapidly—each bacillus dividing into two in about 45 minutes—and if a needle point is touched to a growth of typhoid bacilli and then dragged along the surface of some culture medium, such as nutrient gelatin, there will soon appear along the track of the needle a growth readily visible to the unaided eye and resembling somewhat the growths of ordinary molds and yeasts. In this way the bacteriologist can cultivate typhoid bacilli in large quantity—even by the pound if desired.

Milk is a favorable culture medium for typhoid bacilli, and consequently if a small particle of matter containing these organisms is introduced into milk the bacilli may undergo rapid multiplication and become disseminated throughout a large volume of milk. For this reason it is necessary in order to safeguard a milk supply against typhoid infection to have exercised extraordinary precautions in the handling of the milk, so that nothing soiled to the slightest extent with human excreta will get into the milk or into the milk vessels. A finger or a single fly soiled with infected excreta may introduce into a vat of milk in a city dairy the seeds of infection for an extensive typhoid epidemic.

Under most natural conditions, typhoid bacilli outside the human body do not multiply and do not live for a very long period, but gradually die off. In water some of the bacilli may survive long enough to be carried for miles in flowing streams. The factors which operate for the purification of streams are very variable and in many instances it is hazardous to depend upon a stream to have purified itself after it has flowed even as much as 15 or 20 miles from the last point of dangerous pollution. Typhoid bacilli in water

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stored in tanks, reservoirs, or lakes will die out usually in a month or two, but there is probably an element of danger in depending upon storage alone, even for a considerably longer period than a month or two, to remove typhoid infection from water. Freezing kills a large proportion of typhoid germs in water, but the number surviving usually is ample to cause infection. Outbreaks of typhoid fever have been traced quite definitely to infection in ice harvested from polluted waters and stored for several months before being used. Experimentally it has been found that butter made from infected cream may retain living typhoid germs for as much as 60 days. On vegetables, such as lettuce, sprinkled with infected water or grown in infected soil, typhoid bacilli may survive for several weeks. The bacilli will survive drying for a short period, and under some circumstances dust may serve as a factor in the dissemination of the infection. In the contents of privy vaults and cesspools typhoid germs may survive for weeks and in some instances probably for as much as a year. Septic tanks should not be relied upon to destroy typhoid bacilli in sewage, because many of the bacilli will withstand such septic action as septic tanks are usually designed to accomplish.

PRINCIPLES OF TYPHOID-FEVER PREVENTION.

If only persons sick with the disease harbored typhoid-fever germs, the prevention of typhoid fever would be very much simplified and would require only the carrying out of rigid precautions to secure the destruction of the infection in the discharges of typhoid patients from the beginning to the end of illness; but some persons recovered from all clinical manifestations of typhoid fever continue to discharge typhoid bacilli in the feces or urine, or both, for weeks, months, or even years, and others who have never had a clinically recognizable attack of the disease become temporary or permanent typhoid-germ carriers and distributers. Any person in a community where typhoid fever is prevalent may harbor in the intestines and discharge in the excreta for a few days or weeks typhoid bacilli without presenting in the meantime any of the usual symptoms of typhoid fever. In view of these facts, it is obvious that to prevent typhoid fever measures must be directed toward securing a proper disposal of the excreta of all persons—the sick and the well—so that the food and drink and other things which we may put into our mouths will be free from contamination with the excreta from human beings. In communities under comparable climatic conditions typhoid fever will be prevented in proportion to the degree to which these measures are carried out and typhoid fever will prevail in proportion to the neglect of these measures.

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The proper disposal of human excreta will prevent not only typhoid fever but also the dysenteries, much of the diarrheal disease of infant and adult life, hookworm disease, and many of the diseases caused by the larger animal parasites, and will furnish a complete safeguard against the spread of Asiatic cholera. In view of the fact that persons with consumption swallow their sputum and discharge tubercle bacilli in their feces, the proper disposal of human excreta is an important measure to be carried out for the prevention of tuberculosis.

PREVALENCE OF THE DISEASE IN THE UNITED STATES.

The typhoid-fever death rate of a community, with due allowance made for the climatic conditions, furnishes a fairly accurate measurement of the degree of sanitation attained by that community. Typhoid fever is largely a disease of warm weather, and under comparable sanitary conditions the disease will be more prevalent in localities having warmer and longer summer seasons. The average annual typhoid death rate for the United States as a whole in recent years has been about 45 per 100,000 of population. This rate is over three times as high as those for a number of other advanced nations of the world. Some of the European countries now having low typhoid rates formerly had rates as high or higher than the present rate for the United States. Their climatic conditions appear to be about as favorable for typhoid infection as are those for the average section of the United States. The comparatively high typhoid rate in the United States must mean, therefore, that the people of the United States have been comparatively negligent in carrying out reasonable sanitary measures.

Busied with the exploitation of the wonderful natural resources of the country, the American people have not yet given due attention to sanitation. Under a republican form of government the will of the majority, though frequently slow of expression, is supreme, and progress in sanitation as in other fields is made just as fast as the masses of the people demand. Unless public sentiment is behind a sanitary campaign satisfactory results can not be obtained. Administrators of the law will hesitate about appropriating the public funds for sanitary improvements until they are assured that the majority of the people wish them to do so.

The American people are preeminently a business people, and before a community can be stirred into intelligent action for marked sanitary improvements it must be made apparent in the majority of instances that without such improvements business interests are going to suffer. This is not the case because the average American citizen has no appreciation of the value of human health and human life, but it is because the masses of the people are not and as a rule do not

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become organized in a way to give that concerted effort necessary to the success of a sanitary campaign until the business people through their organizations make sanitation a business issue and advance it in a businesslike way.

Extensive typhoid outbreaks in the majority of instances occur because of the existence of obviously faulty and dangerous conditions which should be corrected on general principles before the outbreaks occur. No community having a reasonably safeguarded water supply and general food supply and a decent system of disposal of human excreta will have either outbreaks or a high annual prevalence of typhoid fever.

A review of the sanitary and civic conditions in any section of the country in which typhoid fever is highly prevalent will present many of the salient features of the great general problem of typhoid-fever causation and prevention in America.

THE TYPHOID FEVER SITUATION IN YAKIMA COUNTY, WASH.

The greater part of Yakima County is made up of valley land lying immediately to the east of the Cascade Mountains. Much of the land has as its superficial stratum a volcanic ash which, when watered, is of wonderful fertility. In recent years extensive irrigation projects have been carried out and a considerable proportion of the land is now irrigated and is in a high state of agricultural development. The crops of fruit, garden truck, hay and grain which can be obtained from this fertile land are really phenomenal, and in the irrigated sections much of the land used for agricultural purposes has a valuation of over $2,000 per acre. The resources of the section have attracted people from far and wide, and the population of the county increased, according to the United States census, from 13,462 in 1900 to 41,709 in 1910. Towns and villages have sprung up throughout the valley. The largest city is North Yakima, the county seat.

The populace impresses one as being distinctly and intensely American. There is much money to be made, and to be made rapidly, and the people generally are energetically engaged in making it. As is usually the case under such circumstances, time has not been taken for due attention to sanitation, and sanitary conditions throughout the county are obviously faulty.

Few of the towns have any sewerage system or public water supply, and in those that have the sewerage system and public water supply have not been extended to keep up with the growth of the town. In the nonsewered parts of the towns and in the rural districts generally there are in use privies, privy vaults, or cesspools of grossly insanitary type permitting soil pollution and fly contamination. In many

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instances there is free communication between privy vaults and shallow wells, and in some instances the communication is so obvious that it seems almost an extravagance to have two holes in the ground when one might have been used both as a privy vault and as a source of water for drinking without adding very greatly to the existing danger. The irrigation ditches generally are more or less exposed to pollution from privies so that at times vegetables watered from these ditches may be dangerously contaminated. The irrigation of the land causes extensive surface drainage and subsoil seepage and thus unquestionably operates as an important factor in the distribution of infection from faultily disposed of human excreta to shallow well waters.

In the irrigated sections of the rural districts the residences are close together. Farming is intensive and many of the farms consist of less than five acres. The population in these sections has been aptly compared to that of the suburbs of a large city. The summers are hot and dry. Horses are used generally for work about the farms. The number of horses per square mile in the cultivated sections of the valley is relatively large. It is exceptional to find stable manure handled and disposed of in a way to keep it from affording a breeding place for flies, and throughout the valley flies are remarkably abundant during the summer and early fall seasons. For the rural districts and for most of the towns and villages adequate provisions have not been made for the maintenance of efficient local health organizations, and consequently there is a lack of efficient official supervision to secure the enforcement of proper prophylactic measures about the bedsides of typhoid-fever patients.

In the summer and fall seasons of each year typhoid fever is highly prevalent in Yakima County, just as should be expected in view of the climatic and obviously insanitary conditions.

The annual typhoid fever death rate for the county since 1907 has been, according to the somewhat unsatisfactory records, about 150 per 100,000 of population, or about three times the average rate for the whole United States. The conditions responsible for the high typhoid fever death rate in Yakima County are thoroughly correctable. The people of the county, when compared with the people of the average American community, are a remarkably prosperous and intelligent people. They are exceptionally well qualified to cope with a serious typhoid fever situation, such as confronts them at the present time. Judging by all the indications the vastly greater part of the typhoid fever in the county could be prevented by reasonable and comparatively inexpensive sanitary measures directed especially toward securing a proper disposal of human excreta. It is a safe prediction that if every residence in

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Yakima County were provided with properly constructed, properly maintained, and properly used water-closets or privies the typhoid fever rate there would soon be reduced by 80 or 90 per cent.

Everyone owning a property fit for human habitation in the county is financially able to bear without serious inconvenience an expenditure of the few dollars needed for the installation and maintenance of such sanitary devices. Improvements in the method of disposing of human excreta would effect a reduction not only in the typhoid fever rate, but also in the case and death rates from a number of other diseases which result from excretal dissemination. At the present time the intelligent expenditure of a reasonable amount of money for the improvement of sanitary conditions would appear, not only from the all-important standpoint of saving human health and life, but also from a strictly business standpoint, to be one of the very best investments that could be made with the county's public funds. Whatever is accomplished in the way of sanitary improvements at once will give encouraging immediate results and will lessen and facilitate the work to be done in the future.

Between the urban and rural districts of the county there is, under existing conditions, a free interchange of typhoid infection. A reduction of typhoid in the incorporated towns will effect a reduction in the typhoid-fever rate in the rural districts, and vice versa. Therefore cooperation between the towns and the rural districts in carrying out an energetic county-wide sanitary campaign is vastly important.

Each locality has, of course, its own particular sanitary problems, but the general situation as regards the causation of typhoid fever presents a number of features which are common to practically all the localities in the county, and consequently certain measures for the prevention of typhoid fever may be recommended for application throughout the county.

RECOMMENDATIONS.

(1) *The formation of an efficient county health organization.*—What is everybody's business is nobody's business, and in order for sanitation to be satisfactorily advanced in a community it must be made the business of some one to coordinate the forces and to direct the work. The recent arrangement by which the health office for Yakima County and the health office for the city of North Yakima have been placed in charge of one health officer, paid jointly by the county and city, is to be commended as an important step in the right direction. By combining the two offices a position is created which carries a reasonably adequate salary, and efficient services may be expected accordingly. An extension of this system throughout the county seems highly advisable. The following plan is suggested:

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Divide the county into sanitary districts. Provide an adequate force of deputy county health officers and sanitary inspectors to cover every district in an efficient manner, the work in each district to be under the immediate charge of a deputy county health officer, but the work in all the districts to be under the general supervision of the county health officer. In each sanitary district containing an incorporated town it would be advantageous to have one health officer serve for both the town and the sanitary district. By this arrangement the salary of the officer could be borne jointly by the town and county and the administration of health affairs simplified and strengthened. The formation of an efficient county health organization along these lines would cost something, it is true, but nothing like as much as typhoid fever alone is costing the county in actual dollars and cents year after year. Sanitary improvements to effect a saving of human health and life and of economic resources can be accomplished only by intelligent labor, and intelligent labor costs money. Improvements in sanitation, just as improvements in public roads, will be accomplished in proportion to the amount of money intelligently expended in the enterprise.

(2) *Rigid enforcement of the law requiring the prompt reporting of all cases of typhoid fever.*—Many typhoid-fever patients discharge infection from their bodies from the very beginning of illness. Therefore, measures to prevent the spread of infection should be started early at the bedside of every case. Experience has shown that without official supervision over cases in a community the carrying out of proper prophylactic measures at the bedsides will be neglected in many instances. Until the cases are reported the health officials have no opportunity to exercise supervision over them. If the carrying out of prophylactic measures is delayed until a positive diagnosis based on clinical sypmtoms alone can be made, infection may be spread from many doubtful cases. Physicians and others in charge of patients should be encouraged, and also required by law or regulation, to report all cases of illness which may reasonably be suspected to be typhoid fever within 24 or 48 hours after they have taken charge of such patients. With the facilities of the now well-equipped laboratory in North Yakima available for both county and city work there is no reason why practicing physicians should not have definite diagnoses established promptly in practically all doubtful cases.

(3) *Adequate official supervision over all recognized and suspected cases of typhoid fever to secure disinfection of the stools and urine of patients and the carrying out of other measures to prevent spread of infection from the bedsides of patients.*—In getting the preventive measures carried out, the cooperation of attending physicians and families of patients should be obtained to the fullest extent possible,

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but health officials should be given as complete legal control over typhoid-fever patients as they are now given quite generally over smallpox patients. Official supervision over a person recovering from typhoid fever should be continued until the person has been up and around for at least two weeks and, so far as practicable, until bacteriological examinations of two specimens of stools and urine of the person have given negative results for the typhoid bacillus. All typhoid convalescents presenting a readily obvious cloudiness of the urine should be regarded and from a prophylactic standpoint treated as cases of typhoid bacilluria until a contrary diagnosis has been indicated by bacteriological examination of the urine.

(4) *The safeguarding of water supplies against dangerous pollution.*—The most dangerous matter with which water supplies are commonly polluted is the excreta, the stools and urine, from human beings. If the excreta from a large number of persons for a short period of time or if the excreta from a small number of persons for a long period of time find their way into a water supply, through discharge from sewers or through drainage or seepage from privies or cesspools, or in any other way, the only safe view to take is that that water supply from time to time will be infected with typhoid-fever germs. Therefore water which has been exposed to pollution with human excreta should not be used for drinking or culinary purposes until it has been subjected to some purification process which will certainly remove from it or kill whatever disease germs it may contain. By boiling, by filtration, or by treatment with hypochlorite of lime water may be rendered free from typhoid infection. Boiling is simple, thoroughly efficient, and is feasible in practically every home. Filtration on a large scale, as for a city's water supply, is, when skillfully done, an efficient but somewhat costly method of purifying water. Some types of small filters for use in private homes are dangerous in that they are entirely inefficient and give a false sense of security. Those of the Berkefeld and Pasteur types if operated with great care and intelligence may be efficient, but on account of the accidents to which they are liable and the natural tendency of people to overwork them they should not be unhesitatingly recommended for general use. Hypochlorite of lime treatment is an efficient method of destroying typhoid infection in water. It has the great advantage of cheapness and may be employed on a large or small scale. A plant for treating the water supply for a town or city can be installed in a few days. The amount of hypochlorite of lime required for each million gallons of water is usually from 6 to 10 pounds. Good (fresh) chloride of lime, containing at least 25 per cent of available chlorine, should be used, and the efficiency of the process determined by bacteriological examination of samples of the water taken before and after the solution is added.

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To treat 5,000 gallons of water in a tank or cistern proceed as follows: Put 1 ounce of good chloride of lime into a vessel containing about a gallon of water. Shake or stir rapidly for about a minute. Let vessel set for a few minutes, so that most of the insoluble part of the lime will settle to the bottom. Pour the solution into the cistern, and by the manipulation of a board or by the operation of some mechanical device stir the water in the cistern so that the solution will be quickly diffused throughout the volume of water.

Hypochlorite of lime is an efficient agent for the destruction of typhoid bacilli and other bacteria of the intestinal group, but as employed for the treatment of drinking water it will not kill tubercle bacilli nor the eggs of certain disease-producing animal parasites which may be in any water supply polluted with human excreta. Therefore, even if a water supply is being treated with hypochlorite of lime it should be protected so far as practicable against pollution.

The shallow wells quite generally in the towns and thickly settled districts of Yakima County are dangerous sources of water for drinking. There is extensive soil pollution from the many insanitary privies and cesspools. The soil generally has poor filtering quality. Irrigation causes extensive subsoil seepage and so assists materially in the conveyance of pollution from privies and cesspools to wells. Shallow wells should be abandoned as rapidly as other and safer sources of water can be made available. The people who use water from polluted shallow wells should be urged to boil the water before using it for drinking or general domestic purposes. The wells should be protected against pollution so far as is possible by the use of sanitary privies. There appears to be an element of danger, certainly, in the use of grossly polluted water for the irrigation of the land on which are cultivated certain fruits and vegetables usually eaten uncooked. This is particularly true if the plants are sprinkled or washed with the water. Furthermore, there is always a likelihood that some persons will drink water from the irrigation ditches if the pollution is not such as to cause the water to be offensive to taste or smell.

The sewage of North Yakima is discharged into the Yakima River. Within the county and downstream from North Yakima this river is used as a source of supply of water for irrigation ditches, and on a number of farms the water either directly from the river or from the irrigation ditches, fed by the river, is stored in cisterns and used for drinking and culinary purposes. In the town of Sunnyside, about 30 miles below North Yakima, the water mains are so arranged that the Yakima River water in the Sunnyside Canal can be used as an emergency supply, and for several weeks in the spring of this year the river water was used as the public-drinking-water supply for the town. The streams in the county should be used either as sewers or

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as sources of drinking water and not for both purposes. Streams which are to be used as sources of drinking water should be protected not only against dangerous pollution with the sewage of cities and towns, but also against dangerous pollution with human excreta promiscuously deposited or from privies, privy vaults, cesspools, and septic tanks in the urban and rural districts through which the streams flow. The water of the Yakima River downstream from North Yakima should be regarded under existing conditions as a dangerously polluted water, and should not be used for drinking and culinary purposes until after it has been subjected to some efficient process of purification. It may become highly advisable for the people living downstream from North Yakima to demand that the sewage of North Yakima be either diverted from the Yakima River or be purified before being discharged into the river; but it would not appear entirely reasonable for them to do so until steps had been taken also to prevent the pollution of the river with human excreta from the many privies, etc., located upstream from, in, and downstream from North Yakima. The pollution of drinking-water supplies with stable manure is objectionable, certainly from an æsthetic standpoint and possibly from a sanitary standpoint, since the droppings from animals may contain germs capable of predisposing toward or of causing disease in persons; but no evidence has been presented that the feces or urine of horses, cattle, sheep, hogs, or poultry ever contain typhoid bacilli. In this connection it should be borne in mind, however, that it is not an infrequent practice for persons who work in and around stables to defecate and urinate in or nearby the stalls, and if a manure dump contains human excreta it may contain typhoid germs.

(5) *The disposal of human excreta in a sanitary manner so that the soil will not be polluted and flies will not be contaminated with this dangerous material.*—This is by all odds the most important single measure needed for the prevention of typhoid fever in Yakima County. The sooner it is accomplished throughout the county the sooner will the typhoid-fever rate throughout the county be reduced to a reasonably low rate. So long as it is neglected, and in proportion to its neglect, the residents of Yakima County should expect to suffer the great losses, and in view of the preventability of the disease the needless losses, incident to a high typhoid-fever prevalence. The few dollars per household required to construct and maintain a sanitary privy at every home in the county not provided with a sanitary water-closet would be unquestionably the most profitable investment which the citizens of Yakima County could make for insurance against losses in life, health, and business prosperity. It is terrible to contemplate what the ravages of a cholera outbreak might be under the insanitary conditions obtaining in respect to the

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disposal of human excreta in most of the thickly settled sections of the county. All residences in the county not within sewered sections should be provided with properly constructed, properly used, and properly maintained sanitary privies. (See Appendix A.) Adequate official supervision should be exercised over all privies so that the maintenance of them in proper condition and the safe disposal of their contents could be assured. In sewered sections all residences should be provided with sanitary water-closets connected with the sewerage system. In the partially sewered town no single public improvement is generally so important as is the extension of the sewerage system so that it will be kept up with the growth of the town.

If promiscuous defecation and urination are practiced, or if insanitary privies, privy vaults, cesspools, or septic tanks are used in a community, the excreta on or in the soil may be spread by seepage, by surface drainage, by flies and other insects, by feet and hands of persons, by domesticated animals, and by other agents to foods or beverages. By preventing such excretal dissemination typhoid fever will be prevented, and such excretal dissemination can be prevented by the use of sanitary privies or sanitary water-closets.

(6) *The carrying out of an energetic campaign against flies to lessen their numbers and to prevent them from having access to infectious matter and to foods and beverages.*—House flies (*musca domestica*) are remarkably abundant in many sections of Yakima County. These insects are among the filthiest of living creatures. They breed in and feed on stable manure, privy contents, and garbage. They are dangerous as regards the spread of typhoid infection in proportion to their numbers and to their opportunities to travel from human excreta to foods and beverages for human consumption. Under existing conditions flies must play a considerable part in the spread of typhoid infection in Yakima County. To prevent flies from spreading typhoid and other excretal infections the most important as well as the most feasible measure is the use of sanitary privies or water-closets so that flies will not have access to human excreta. So long as there is a possibility that the flies in a community have had access to human excreta it is highly important that all foods and beverages for human consumption in that community be protected as completely as possible—by screening or otherwise—against fly invasion.

Since it is very difficult practically where flies are abundant to obviate the possibility of flies traveling from collections of human excreta to foods the adoption of measures to lessen fly abundance as much as practicable is highly advisable. The number of flies in a community may be reduced somewhat by very extensive trapping, and such trapping is to be recommended, because for every fly caught and

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killed the danger of spread of infection is lessened to some extent. But while hundreds of flies in a neighborhood are being trapped millions may be breeding in near-by collections of stable manure (horse manure especially), human excrement, garbage, and other filth, and the cheapest and certainly the most effective way to lessen the number of flies in a community is to attack their breeding places. All filth, such as stable manure, etc., which will serve as a breeding place for flies should be kept in flyproof containers until it can be hauled away and disposed of properly. Stables should be kept clean. The manure should be removed from the stalls and deposited in flyproof receptacles every day, and be removed from the premises every eight days, so that the fly eggs deposited in it will not have time to hatch out. If it be desired to store the manure for a period of more than eight days the manure should be kept in flyproof sheds, boxes, or vats. For ultimate disposal the manure may be burned or spread on fields and either plowed under at once or left on the surface in a very thin layer so that it will dry rapidly.

(7) *The diffusion of information in respect to sanitation among the people generally.*—Through health-office bulletins, newspaper publications, and by public addresses much may be done to enlighten the people generally about the causation and prevention of infectious diseases and the importance of sanitation. Sanitary progress depends very largely upon sanitary instruction, and no effort should be spared by health officers and other administrators of civic affairs to advance as rapidly as possible the education of the masses of the people in sanitary matters.

Typhoid fever is prevented by applying the elementary and very reasonable principles of decent sanitation, or cleanliness, in respect to the disposal of the bodily wastes from human beings. If a large majority of the intelligent citizens of Yakima County should become correctly informed about the prevalence of typhoid fever in the county and about the modes of spread of typhoid infection there is hardly a doubt that an effective campaign would be started without delay for the sanitation of every insanitary privy, privy vault, cesspool, and septic tank in the county. If all the insanitary privies, privy vaults, cesspools, and septic tanks in the county were made sanitary, and if promiscuous defecation and urination by persons in the county were prevented, perennial typhoid fever in Yakima County would soon be reduced to a remarkably low rate.

TYPHOID FEVER IN NORTH YAKIMA.

North Yakima, the seat of government for Yakima County, is located in the north central part of the county, on the west bank of the Yakima River, a short distance below the confluence of the Yakima and Naches Rivers. The country immediately surrounding

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the city is remarkably fertile, and is in a high state of agricultural development. The city is prosperous, and has a rapidly increasing population. According to the United States census reports the population increased from 3,154 in 1900 to 14,082 in 1910.

For some years, certainly as far back as the records go, typhoid fever in North Yakima, as in the towns and the rural districts generally of Yakima County, has been highly prevalent. The high rate of prevalence of the disease, year after year, in North Yakima finally attracted public attention, and a demand arose for a determination of the measures needed to eradicate the disease. In response to this demand, Dr. Eugene R. Kelley and Mr. T. R. Wilber, of the State board of health, made a painstaking study of the situation in the summer and fall of 1910.

The occurrence of an explosive outbreak of typhoid fever in North Yakima in May, 1911, caused a keen awakening of the people to the seriousness of the situation. At the request of the city, county, and State authorities the Surgeon General of the United States Public Health and Marine-Hospital Service detailed the writer to proceed to North Yakima and to make an investigation of typhoid fever in that city and vicinity with a view to determining the causes of the prevalence of the disease and the measures necessary for its prevention. This investigation was conducted in cooperation with the county and city health officer and with representatives of the State board of health. It was begun on June 17 and terminated on July 22. While the bulk of the field work was done in North Yakima and its immediate vicinity, sanitary inspections were made practically throughout the county, and public addresses describing the insanitary local conditions and urging corrective measures were made in the following villages or towns: Naches City, Selah, Wapato, Zillah, Toppenish, Granger, Grand View, Mabton, Sunnyside, and Moxee City. The work was carried on to a special extent in North Yakima and its immediate environs for several reasons:

(1) North Yakima is the largest town in the county, and consequently conditions responsible for typhoid fever there would affect more persons, including travelers to and from other sections of the county, than would comparable conditions in any other town in the county.

(2) The people in the county generally, and those in the city particularly, were keenly interested in the situation in North Yakima on account of the outbreak which had just occurred there.

(3) The usual season (summer and fall) of high prevalence of typhoid fever appeared from the records to be the same for North Yakima as for the county generally, and the insanitary conditions in North Yakima seemed to be quite typical of local insanitary conditions found generally in other sections of the county and presumed to

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be responsible for the high annual typhoid fever rate throughout the county.

(4) General measures to prevent typhoid fever in North Yakima would be applicable in practically all parts of the county.

(5) A successful campaign against the disease in North Yakima would furnish an object lesson for all the towns, villages, and rural districts in the county.

The investigation at North Yakima comprised an epidemiological study of the cases of typhoid fever occurring in the city from May 1 to June 15, a review of the records at the city health office to ascertain the prevalence of the disease for previous years, a sanitary survey of the watershed of the Naches River to determine the degree of pollution of the city's water supply, bacteriological examinations of the water supply, inspections to determine the likelihood of contamination of the water after it enters the mains for distribution to the city, a sanitary survey of the city and its environs—especial attention being given to the sewerage system, privies, privy vaults, cesspools, and to the irrigation ditches as possible factors in the spread of typhoid infection—and inspection of the public dairies, markets, groceries, restaurants and other places where foods were sold or prepared for sale.

PREVIOUS INVESTIGATION.

During August, September, and October of 1910, Dr. Eugene R. Kelley and Mr. T. R. Wilber of the State board of health made a careful epidemiological study of typhoid fever in North Yakima. Their investigation was conducted under considerable difficulties in that but a small proportion of the cases of typhoid fever then occurring in the city were being reported. The data collected, however, were quite extensive and facilitated greatly the subsequent investigation. The report of Dr. Kelley and Mr. Wilber, published in a bulletin issued in the spring of 1911 by the State board of health, and entitled "Studies in Typhoid Fever by the Washington State Board of Health during 1909–10," contained the following general conclusions and recommendations:

First. That typhoid fever as it appears in North Yakima and surrounding country is not in epidemic form, but endemic, subject to periodical variations of intensity.

Second. That as far as North Yakima is concerned, fully two-thirds of the cases originated within that city, and are due to causes prevailing therein; and that about one-third of the cases are brought from the surrounding country and may be or may not be caused by the conditions prevailing within the city of North Yakima.

Third. That only to a limited extent can milk be considered as a carrier of the infection, though it is evidently a source of danger, and the milk supply of the city, the sanitary conditions at the dairies, and sickness in the families of the producers and handlers of milk, should be very carefully scrutinized.

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Fourth. That it is not a water epidemic and, hence, the city water supply can not be held solely responsible for the marked increase and severity of typhoid during the past year. However, the city water supply is one which has a number of objectionable features, and is of the class that sanitarians would consider a dangerous supply; very liable to accidental pollution through the fact that its intake is directly from a river flowing through an irrigated section, without adequate protection at or before water enters the main conduit, and it is only by an act of Providence this system has escaped direct pollution up to this time. That while evidence of the water ever having been polluted with the typhoid-fever germ is entirely wanting, examinations made in connection with the Geological Survey at the intake, showed that the water is occasionally polluted with other germs coming from human or animal excrement, and that the bacterial count runs occasionally high, and the further fact that the system contains many dead ends from which water containing gross evidences of putrefaction have been taken, indicates that the water supply is one which, while it is not directly polluted with the typoid-fever germ, tends indirectly to favor the prevalence of typhoid fever in its users, as it is a well-known fact that deleterious water, by its tendency to cause intestinal irritation and diarrheal troubles, materially reduces the natural resistance of each individual to an invasion of the typhoid-fever germ.

Fifth. The fact that practically one-third of the cases examined come from users of water from shallow wells, while only a small percentage of inhabitants use such water, taking into consideration the general topographical lay of the land and the conditions of the soil, indicates that the shallow well water is even more deleterious than the city water supply, and while we have no evidence of direct contamination of any of the wells, these facts alone are sufficient to lead to the conclusion that the water from the shallow wells must be considered as a factor in reducing the resistance of the individual to an invasion of typhoid fever to a far greater extent than the city water supply.

Sixth. That while we must conclude that the sewerage system of North Yakima is inadequate and should be extended, and that the extension thereof would render more easy the disposal of the excreta of typhoid fever patients, nevertheless, the present sewerage system must be considered as only an incidental factor in the prevalence of this disease. The topography of this section and the geological formation, together with the surrounding irrigated country, has, during the summer months, a very marked influence on the increase of the subsurface water in this locality. This is so great that during the irrigation season the water in the surface wells is raised, water appears in cellars, and the sewers are flooded to their extreme capacity; and while all these conditions have a detrimental effect and are dangerous, yet we could obtain no evidence that they influenced the disease except indirectly.

Seventh. The number of contact cases lead inevitably to the conclusion that great carelessness has existed in handling and disinfecting the discharges of the patients sick with this disease, and this in itself must be considered as one of the most important causes for the prevalence of typhoid fever in this locality during the time it was investigated.

Eighth. The fact that 70 per cent of the residences of those studied were in an insanitary condition, and that more than 85 per cent, where residences and locality are combined, showed an unsatisfactory sanitary condition, compels us to the conclusion that unsatisfactory sanitary conditions, through their numerous possibilities of conveyance of the germs from the discharges of the patients to the food of others, by means of flies, other persons, and other agencies is an even more important factor in the prevalence of the disease than direct contact. This is further substantiated by the fact of the large prepon-

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derance of male cases, as it is well known that the men, to a very much larger extent than the women, eat at public eating houses where, to a considerable degree, the sanitary conditions are far from ideal.

These conclusions lead us to believe that to reduce this prevalence and eventually stamp out the disease in this locality, the following recommendations are absolutely essential and should be strictly enforced:

First. That the city of North Yakima and the county of Yakima should cause a thorough removal of all insanitary conditions existing in the city and in the country. All cesspools should be absolutely prohibited. All open toilets frequently cleaned and disinfected. All vault toilets frequently disinfected, and toilets of all kinds should be rendered flyproof. That it is not sufficient to cause one removal of insanitary conditions, but the city and the county should be frequently reinspected and these conditions kept in abeyance.

Second. That the watershed of the city supply should be carefully patrolled and all insanitary conditions removed and kept removed, and that this should continue until a proper purification system is installed. That all dead ends in the city mains should be frequently flushed and eventually discontinued by extending these mains until a circulating system is established. That the water main should be extended to all parts of the city, and shallow wells, as far as possible, absolutely prohibited, and where impossible to prohibit, should be kept under strict surveillance. That the old reservoir of the city water supply, which is now used for emergencies, should be discontinued and a properly constructed storage reservoir installed, which would receive its water from the main conduit, and where the water could be kept in a perfectly fresh and pure condition.

Third. That prompt reports of all cases of typhoid fever, or those suspicious of this disease, should be strictly enforced.

Fourth. That each case reported as typhoid fever, or as suspicious of being such, should be promptly investigated by the health department, and all insanitary conditions at the place of residence and in the vicinity thereof, and at the place where the disease was probably contracted, should be abated. That the houses wherein such cases are should be placarded, and the room or patient screened from flies. That careful rules for disinfection of all the excreta, linen, and other things coming in contact with the patient should be furnished by the health department, and careful instructions should be given how to carry out these rules, which should be strictly enforced; and every case should be reinspected by the health department at sufficiently frequent intervals to satisfy this department that all insanitary conditions are kept removed and the rules for disinfection are strictly followed.

Fifth. That it would be wise for the city in building new sewers and sewer extensions to provide the double system, one for the sewage itself, which should be water tight with waterproof joints, and one for surface drainage.

To enforce these measures will be moderately expensive, but when one considers that during the past year more than $30,000 was spent by the citizens of this city in caring for those sick with typhoid fever alone, and that the economic loss to the city must be close to $70,000, while the economic loss to the county, including the city, must have been between $250,000 and $300,000, and that these losses occur, to a greater or lesser extent, each year, and have so occurred for the last 20 years or more, this is the best evidence that can be obtained that these expenditures would be true economy and would be many times repaid, not alone in the direct saving in the reduction of the prevalence of this disease, but in the added prosperity which must eventually follow such improvement in sanitary conditions.

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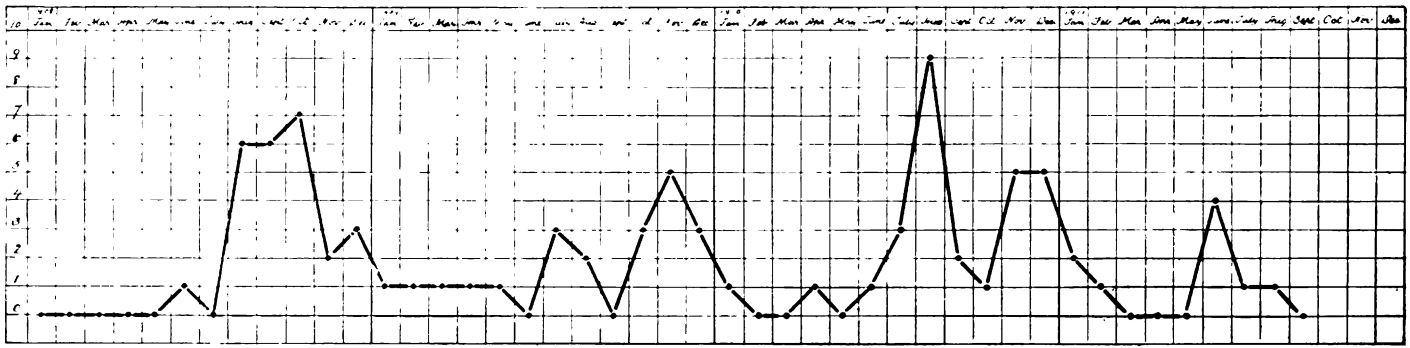

CHART NO. 1.—DEATHS FROM TYPHOID FEVER IN NORTH YAKIMA REPORTED, BY MONTHS, FROM JANUARY, 1908, TO OCTOBER, 1911.

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It appeared that even before the report was published that the actual process of the investigation itself had had a good educative effect upon the community.

PREVALENCE.

The report of cases of typhoid fever in North Yakima was only fragmentary until 1911, and the records of deaths (regarded as complete since 1907) give the only figures available from which the prevalence of the disease can be estimated. The following table and chart (No. 1), based on compilations of the records at the city health office, show the number of deaths reported from typhoid fever in North Yakima by months since January, 1908:

	1908	1909	1910	1911		1908	1909	1910	1911
January	0	1	1	2	August	6	2	9	1
February	0	1	0	1	September	6	0	2	0
March	0	1	0	0	October	7	3	1	0
April	0	1	1	0	November	2	5	5	0
May	0	1	0	0	December	3	3	5	0
June	1	0	1	4					
July	0	3	3	1	Total	25	21	28	9

The table and chart indicate (1) that the death rate from typhoid fever in North Yakima has been high as far back as the records go, (2) that the period of high-causation rate of typhoid fever in North Yakima is usually in the summer and fall, and (3) that the number of deaths in June of 1911 was much larger than the average for that month in the previous years.

Twenty-eight deaths from typhoid fever in a population of 14,082 gives a typhoid-fever death rate of 198.83 per 100,000 of population for North Yakima in 1910. With due allowance made for differences in population, the average annual rate for the two years 1908 and 1909 probably was about the same as the rate for 1910. Thus, the typhoid death rate for North Yakima has been about five times as great as the average rate for the whole United States. In the three years 1908–1910 the number of deaths reported from typhoid fever even exceeded the number of deaths reported from either pulmonary tuberculosis or pneumonia, as is shown in the following compilation from the official records:

Cause of death.	Number of deaths.			
	1908	1909	1910	Total.
Pulmonary tuberculosis	16	25	23	64
Pneumonia	25	20	19	64
Typhoid fever	25	21	28	74

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Charts 1 and 2 show that typhoid fever in North Yakima has quite a distinct seasonal (summer and fall) prevalence, from 76 to 96 per cent of the deaths for each year (1908–1910) occurring in the latter half of the year. Since the time of death from typhoid fever averages about six weeks subsequent to the time of infection, it appears that the period of high-causation rate of the disease in North Yakima extends usually from about the middle of June to about the last of October. The seasonal prevalence of typhoid fever in North Yakima, taken as a single fact, suggests strongly that the public water supply has not been the predominating factor in the distribution of the infection and that the greater part of the disease in the city year after year has been caused by infection disseminated by various agents—such as fingers, flies, foods, and well water, and from improperly disposed of human excreta in the city and in the immediate environs of the city.

All of the available data go to show that the seasonal prevalence of typhoid fever throughout the Yakima Valley corresponds very closely to that of North Yakima and suggest that if complete reports of cases were at hand the rate of prevalence of the disease would be found to have been in the past few years slightly higher for the whole county than for the city of North Yakima.

TYPHOID FEVER OUTBREAK IN MAY AND JUNE, 1911.

In May of this year an outbreak of typhoid fever occurred among persons living in the section of the city to the east of Third Street. (See map No. 1.) In the period from May 4 to July 12, inclusive, 54 cases developed among persons living in that section of the city, while during the same period only 1 case was reported as having occurred in the section of the city to the west of Third Street. The case developing in the western section of the city was in a boy who attended Sunday school in the section east of Third Street. So far as could be ascertained, and a painstaking effort was made to learn of all the cases that occurred, the 55 cases reported comprised all the cases to contract the infection in the city and to develop the disease there during the period of the outbreak. Besides the 55 cases, there were 3 reported as under treatment in the city at the time, but these 3 cases were in persons who had contracted the infection while away from North Yakima.

The population of the section of the city east of Third Street is estimated at about 3,000. Thus, the persons residing in that section compose about 20 per cent of the city's population and furnished all of the cases occurring in the outbreak except 1. Of the 54 cases in the section especially affected, 35 were in persons who lived in

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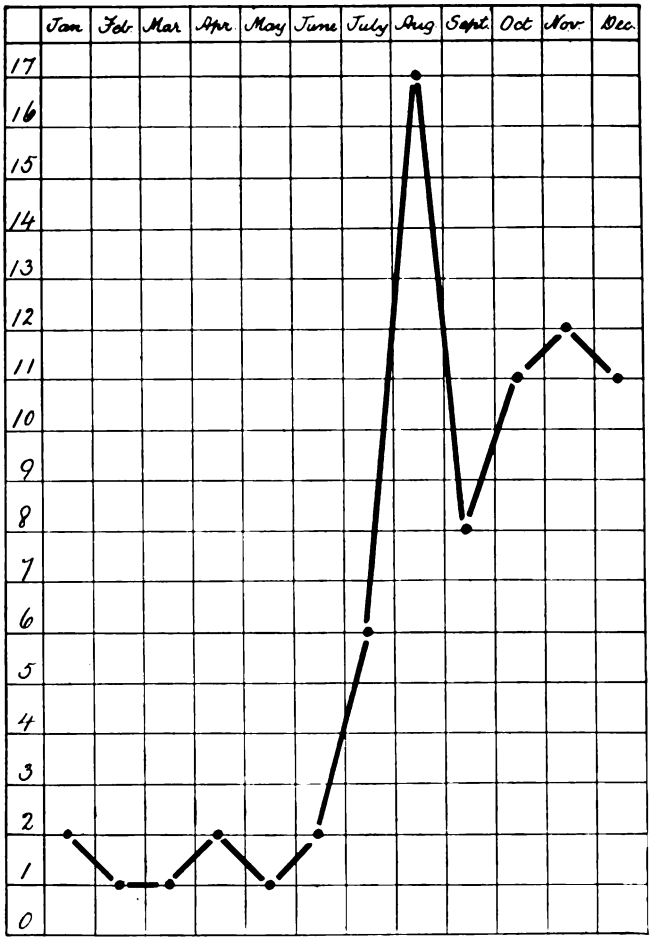

CHART NO. 2.—NUMBER OF DEATHS FROM TYPHOID FEVER REPORTED IN NORTH YAKIMA DURING THE THREE YEARS, 1908-1910, IN MONTHLY AGGREGATES.

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residences to the north and 19 in persons who lived in residences to the south of Yakima Avenue. Since the number of persons living in the section north of the avenue is not much greater than the number living south of the avenue it is evident that the rate of prevalence of the disease was disproportionately high among those who lived north of the avenue. Estimating the population in the section of the city to the east of Third Street at 3,000, about 1 person out of every 50 who lived in the affected section developed typhoid fever during the outbreak. The rate was still higher among those who lived in the portion of the affected section north of Yakima Avenue.

The disease was distributed among persons living under good, fair, and bad sanitary conditions at about a proportionate rate, so it appeared that the disease did not result from insanitary conditions at place of residence of persons affected.

The ages and sex of the persons affected were as follows:

Age, in years.	Number of cases.			Age, in years.	Number of cases.		
	Male.	Female.	Total.		Male.	Female.	Total.
0–4	1	1	2	40–44	1	2	3
5–9	10	7	17	45–49	0	1	1
10–14	7	4	11	50–54	0	0	0
15–19	1	5	6	55–59	0	0	0
20–24	0	0	1	60–64	1	0	1
25–29	2	2	4				
30–34	3	6	9	Total	27	28	55
35–39	1	0	1				

The number of cases in children appeared to be somewhat disproportionately large.

The occupations of the persons affected were as follows:

Occupation.	Cases.	Occupation.	Cases.
School boy	12	Janitor	1
School girl	12	Stenographer	1
Housewife	7	Laborer	1
Carpenter	2	Stableman	1
Postman	1	Hospital nurse	1
Furniture dealer	1	None	13
Electrician	1		
Dressmaker	1	Total	55

Occupational influences seemed to have little, if anything, to do with the distribution of the disease.

The outbreak was explosive in character and must have been caused by infection which was distributed by some agent which reached the general population of the affected area. Thirty of the cases came down sick within a period of 10 days, notably May 14–23.

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The dates of definite onset of illness of the cases, shown graphically in chart 3, were as follows:

Date of taking to bed.	Number of cases.	Date of taking to bed.	Number of cases.	Date of taking to bed.	Number of cases.
May 4	1	May 21	3	May 31	2
10	1	22	2	June 1	1
11	1	23	5	2	1
12	2	24	1	3	1
14	6	25	1	6	1
15	7	26	1	7	1
16	1	27	2	10	1
17	2	28	3	12	2
18	2	29	1		
19	2	30	1		

Considering the usual incubation period of typhoid fever, when occurring as an outbreak or in epidemic form, the period of infection for the cases was between April 15 and June 8. The majority of the cases almost certainly became infected between April 25 and May 25.

The outbreak occurred at a time of year when, as shown by the records for previous years, there is usually comparatively little typhoid fever in North Yakima. Therefore it was clear that this outbreak was caused by some unusual condition, presumably separate and distinct from the conditions which are largely responsible for the high rate of prevalence of typhoid fever which obtains with striking regularity year after year in the city during the summer and fall.

Subsequent to the period of the outbreak, that is, since June 12, the number of cases developing in the city has been much smaller than usual for this period of the year. From June 13 to July 25 only 10 cases were reported in the city, and of that number 8 were cases in which the infection was contracted away from North Yakima, and 1 was in the person of a nurse who prior to illness was in attendance on a case which developed in May. From July 25 to September 1 only 11 cases were reported in the city, and of that number 9 (8 certainly and 1 almost certainly) were in persons who had contracted the infection outside of North Yakima, and the remaining 2 were in persons who within the 30 days prior to illness had been exposed to infection through personal contact with previous cases.

Considering the geographical distribution of the disease and the period of occurrence and the explosive character of the outbreak, personal contact and flies could be definitely eliminated as predominant factors in the distribution of the infection.

On general epidemiological principles the possible immediate sources of infection to be especially considered were milk, green gar-

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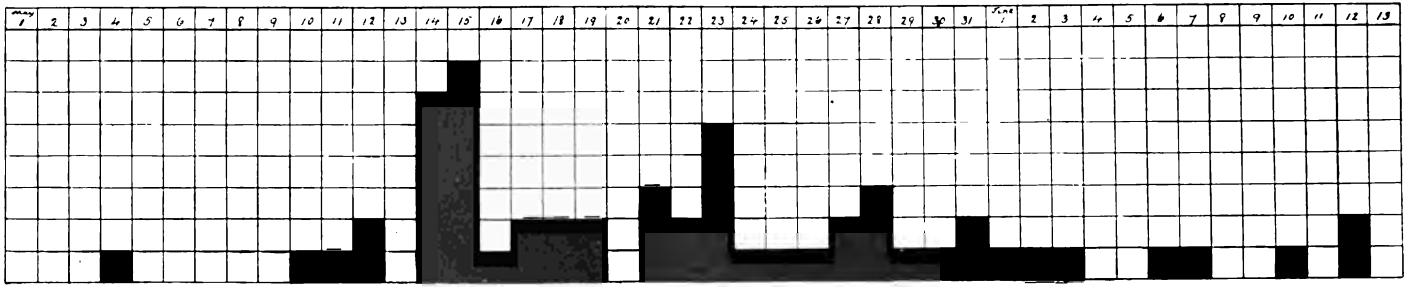

CHART NO. 3.—CASES OF TYPHOID FEVER OCCURRING IN NORTH YAKIMA DURING THE OUTBREAK OF MAY-JUNE, 1911, ACCORDING TO DATES OF DEFINITE ONSET OF ILLNESS.

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den truck, and water. An epidemiological investigation was made of each case to determine to what conditions, particularly in respect to food and drink, the persons had been exposed during the 30 days prior to onset of illness.

Milk was definitely eliminated as the distributing agent of the infection which caused the outbreak. The different milk supplies used prior to illness by the 55 persons affected were derived from 20 different sources. Six of the cases had used no milk. There was no disproportionately large number of cases among the customers of any dairyman. The larger milk dealers who had two or more cases among their customers in the infected area of the city had no cases develop among their customers who lived in other parts of the city.

Twenty-eight of the cases gave a history of having eaten ice cream, 25 had eaten none, while for 2 of the cases definite histories as to the eating of ice cream were not obtainable. There was no disproportionately large number of cases among the customers of any one of the ice-cream makers. Ice cream could not have been the source of the infection.

Thirty-seven of the cases gave a history of having eaten uncooked garden truck of one kind or another, 16 gave a history of having eaten none, and for 2 of the cases definite histories about the eating of garden truck were not obtainable. The cases in persons who during the 30 days prior to onset of illness had eaten no green vegetables developed synchronously with cases in persons who had eaten such vegetables. The vegetables and fruits used by the majority of those who had eaten such foods prior to illness were obtained from markets in the section of the city west of Third Street, and from these same markets large numbers of persons who lived west of Third Street also obtained their fruits and vegetables.

All foods and all beverages except the city water supply were eliminated beyond reasonable doubt as the distributing agents of the infection which had caused the outbreak.

The histories given by the cases in respect to the sources of water used for drinking purposes during the 30 days prior to onset of illness were as follows:

Unboiled and unfiltered city water: Solely, 37; principally, 14; occasionally, 4; a total of 55.

From private wells: Principally, 2; occasionally, 6; a total of 8.

Sumach Park Spring: Occasionally, 4.

Irrigation ditches: Occasionally, 3.

Artesian wells: Principally, 1; occasionally, 1; total, 2.

Wells out of town: Occasionally, 2.

Boiled city water: Principally, 1.

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Thus the city supply was the only water which had been used by a sufficient number of cases to be implicated as the principal source of the infection which had caused the outbreak. This and all the other evidence obtained by the epidemiological investigation of the cases pointed to the city water supply as the only probable source of infection to which all, or even the large majority, of the persons affected had been exposed.

As the outbreak was confined to the section of the city east of Third Street, it was clear that if the infection had been distributed in the public water supply it must have been introduced into the water mains at some point east of Third Street. If the water supply prior to entering the city mains had contained the infection the greater part of the infection certainly would have been distributed in the section of the city west of Third Street. It appeared that the only places at which the infection which caused the outbreak could have been introduced into water mains in the section of the city east of Third Street were (1) the crossings of certain street water mains and sewers and (2) the yard of the Cascade Lumber Co. All water mains in the affected section at their crossings over sewers were exposed and examined, but no evidence of leakage was found. The pumping of water from the Cascade mill pond into the city mains seemed to be the only working hypothesis left to account for the outbreak.

Chart No. 4, prepared by Mr. H. J. Doolittle, the city engineer, shows the arrangement of the water pipes in the yards of the Cascade Lumber Co. The power of the pump used for pumping the water from the mill pond was much more than sufficient to overcome the pressure of the city supply and to force the water from the pond into the city mains. Therefore, if the check valve (X), which was being depended upon to prevent the water from the pond (used for supplying the sprinkler system) from being pumped into the city mains, had failed to close properly at any time, the water from the pond would have been forced into the city mains. The arrangement was a dangerous one and should have been corrected on general principles before any typhoid outbreak occurred to direct attention especially to it. It is well known that such check valves (see fig. 2) should not be relied upon to keep two water supplies, each with variable pressures, separated; and this is particularly true for water containing sticks and small rocks, as both the city water and the mill-pond water do. Whenever the city-water pressure would fall below a certain point the pump would start working automatically and pump water from the pond to restore the required pressure in the sprinkler system. A stick or rock lodging in the valve at any such time might

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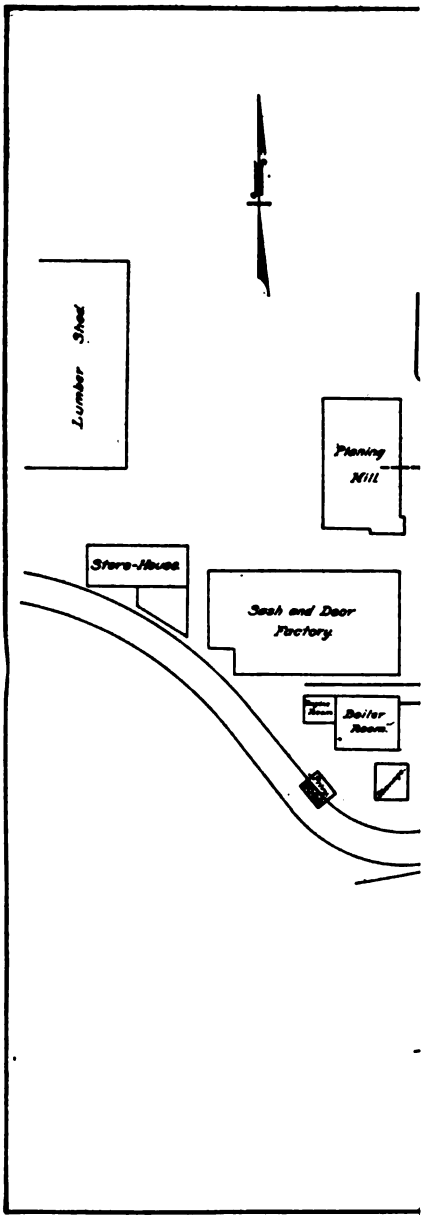

CHART NO. 4.—DISTRIBUTION OF WA

——— Mains carrying city water except in times
..... Pipes to sprinklers carrying either city wa
pump.
X Check valve which was supposed to close t
system.
Y Cut-out valve which when closed was dep
mains from entering the city mains. Th
Z Cut-out valve which could be opened volu
yard system, and, if desired, into the cit

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have prevented the proper closing of the valve. It is certainly possible that, due to such accident, the water from the mill pond found its way into the city mains during the period in which the typhoid fever outbreak was caused.

In time of fire in the lumber yards the cut-out valve (Y) at Eighth and G Streets was supposed to be closed, the cut-out valve (Z) next to the pump opened, and the water from the pond pumped throughout the system of pipes in the mill yards. This valve (Y) at Eighth and G Streets was found to be leaking when tested on or about June 23. Leakage through this valve would have furnished a reasonable explanation of the way in which the pond water got into the city mains and so conveyed the infection which caused the outbreak, if there had been a fire at the mill within the period in which the outbreak must have been caused. But the last fire at the mill, according to the records of the city fire department, was on March 30, which was nearly a month prior to the beginning of the period of causation of the outbreak.

Rumors to the effect that the water from the mill pond was intentionally pumped into the city mains during the period in which the outbreak is assumed to have been caused were persistent. The investigators were unable to determine definitely just how much truth there was in the rumors.

The mill-pond water at the time of this investigation was dangerously polluted with human excreta. It was contaminated by subsoil and surface drainage from a number of insanitary privies and privy vaults within a mile of the upper edge of the pond. The privies used by the 500 or 600 employees at the mill were overhanging a canal which discharged into the lower pond, but when the water from this canal was diverted through a by-pass into the upper pond, as was done from time to time, a considerable proportion of the matter from the overhanging privies had to go but a few hundred feet to reach the sump from which the upper-pond water was pumped. When it was desired to float logs from the lower into the upper pond the level of the water in the lower pond would be raised and then the gate between the two ponds would be opened so that the water would flow from the lower into the upper pond. When this was done whatever infection was in the lower pond could have been diffused to a considerable extent through the water of the upper pond.

The area of the city which was affected by the typhoid outbreak corresponds with striking accuracy to the area which would have been reached by water pumped from the Cascade mill pond through the city water mains. (See map No. 1.) As the water flowed through the pipes leading south from the neighborhood of the mill yards it would have been held back somewhat and diluted when it met the

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current of water in the large main on Yakima Avenue. Therefore, infection entering the city mains in the lumber yards would have been distributed principally to those who used water from the taps located north of Yakima Avenue, and in the outbreak the disease was much more prevalent among the residents north of Yakima Avenue than it was among those south of that avenue.

Convinced of the danger associated with the arrangement of the water pipes and valves at the Cascade Lumber Yards and of the likelihood that infection in the water pumped from the mill pond had caused the outbreak, the writer within a few days after beginning his investigation of the situation recommended to the mayor and city council that the Cascade Lumber Co. be required to effect within the shortest time practicable a complete separation of the two systems of pipes in the mill yard so that there would be no possibility through human fallibility or inefficiency of valves for the water from the mill pond to be pumped into the city water mains. This recommendation was acted upon, and on August 15 the installation of a concrete reservoir, for storing city water to be used as an auxiliary supply in case of fire, was completed and the suction pipe leading from the mill pond to the pump in the lumber yard taken out.

On August 5, 1911, the Pacific Power & Light Co., before a justice of the peace court in North Yakima, on a charge brought by the city health officer, was found by a jury guilty of criminal negligence in allowing water from the Cascade Lumber Co.'s mill pond to be pumped into the city mains, and was fined $99.99.

THE WATER SUPPLY.

The public water supply for North Yakima is obtained from the Naches River. Some of the water passes through a small, open, and unlined reservoir located near the pumping station on the western edge of the city, and some is distributed directly to the mains without being passed through the reservoir. The reservoir is on elevated ground and the general surface drainage is away from it; but there is a possibility of dangerous contamination through subsoil seepage and through occasional surface drainage from immediately around the edge of the reservoir.

Arrangements are such that the water supply can be obtained from the river through any one of several intakes. Upstream from and within a few miles of each of the intakes except the uppermost one the river is constantly exposed at various points to pollution with human excreta. There are no towns upstream from North Yakima which discharge sewage into the river, but there are a number of privies at farmhouses, at temporary camps, and in Naches City,

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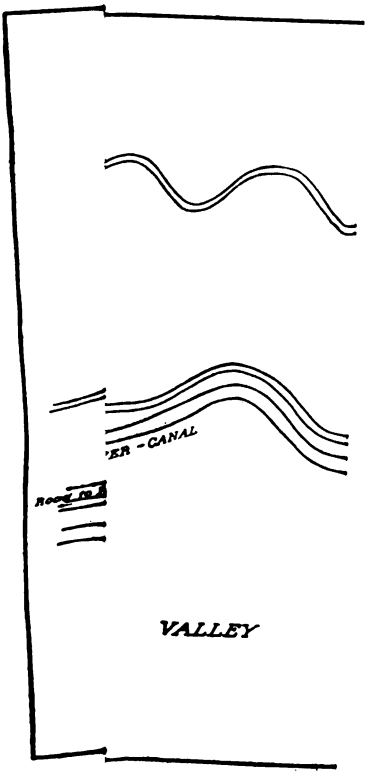

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FIG. 3.—REPRODUCTION OF PHOTOGRAPH, TAKEN BY MR. A. L. OSTRANDER ON JULY 17, 1911, SHOWING PROXIMITY OF AN OPEN PRIVY TO THE WAPATOX CANAL.

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whose contents reach the river through surface drainage or subsoil seepage, and at some places the privies overhang streams which flow into the river.

It is stated that only the uppermost intake is to be used after certain repairs of the conduit have been made. This intake is located on the left bank of the river about 300 yards below the point at which the Tieton River flows into the Naches. Above the mouth of the Tieton the watershed of the Naches is uninhabited, except for occasional camping parties. The water received at this upper intake is conveyed for a distance of about 8 miles through an open canal, which is operated by the Pacific Power & Light Co. as a power canal. From the open canal the water enters a closed conduit and through that is conveyed to the city. The open canal for the greater part of its course is down hill from and less than 100 yards from a much-traveled public road. At many points the canal receives whatever drainage there is from the road. At the time of the investigation there was drainage into the power canal from at least 8 or 10 residences located along its course. Some of these residences are located within a few yards of the canal and the drainage from them carried stable manure, offal from pigpens and chicken houses, and contents of privies.

Chart No. 5, prepared in the office of the city engineer and based on observations made by the city health officer, the city engineer, Mr. A. L. Ostrander and the writer, presents a somewhat typical set of conditions along the course of the canal. The section shown in the chart is about 4 miles upstream from the power plant, where the water from the canal enters a closed conduit which conveys the water to the mains in North Yakima.

The privy marked "X" on the chart, and of which a photograph is shown in figure 3, was located about 30 feet from the bank of the canal. The privy marked "Y" in the chart, and of which photographs are shown in figures 4 and 5, was located about 400 feet from the canal, and was overhanging a small stream which carried the excreta from this privy directly into the water in the canal. By the sanitary survey it was definitely determined that the city's water supply as obtained both from the river directly and from the canal was polluted to a dangerous extent with human excreta.

In the course of the investigation samples of water from different taps in the city were obtained, practically every day, and examined bacteriologically. The bacteriological examinations were made conjointly by the writer and the bacteriologist for the city and county.

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The results of the examinations are presented in the following table:

Sample No.	Source.	Date of examination.	Number of bacteria per cubic centimeter as determined by incubation for 48 hours in—		Gas formation in lactose-bouillon from—		B. coli in—	
			Gelatin plates at 20° C.	Agar plates at 37° C.	1 c. c.	10 c. c.	1 c. c.	10 c. c.
1	Laboratory tap	June 22			−	+	−	+
2	do	June 23			+	+	+	+
3	Fisher tap	do			−	+	−	+
4	Laboratory tap	June 24			−	+	−	
5	Fisher tap	do			+	+	+	+
6	do	June 26			−	+	−	+
7	Laboratory tap	June 27			−	+	−	+
8	Fisher tap	do			−	+	−	+
9	Laboratory tap	June 28			−	+	−	+
10	Fisher tap	do			−	+	−	−
11	Laboratory tap	June 29	440	Spreader.	−	+	−	+
12	Fisher tap	do			−	−	−	−
13	Laboratory tap	June 30	Liquefied.	280	+	+	+	+
14	Fisher tap	do			−	+	−	+
15	Laboratory tap	July 1	Liquefied.	300	−	+	−	+
16	Fisher tap	do			−	−	−	−
17	Laboratory tap	July 3	Liquefied.	180	−	−	−	−
18	Fisher tap	do			−	+	−	+
19	Laboratory tap	July 5	560	260	−	+	−	+
20	Fisher tap	do			−	+	−	+
21	Laboratory tap	July 6	500	320	−	+	−	+
22	Fisher tap	do			+	+	+	+
23	Laboratory tap	July 7	440	230	−	−	−	−
24	Fisher tap	do	300	210	−	−	−	−
25	Laboratory tap	July 8	260	260	−	+	−	+
26	Fisher tap	do			−	−	−	−
27	Laboratory tap, 10 a. m.	July 9	Liquefied.	215	+	+	+	+
28	Laboratory tap, 2 p. m.	do	do	Spreader.	+	+	−	+
29	Laboratory tap	July 10	380	200	−	−	−	−
30	do	July 11	Liquefied.	180	−	+	−	+
31	Fisher tap	do	do	220	−	−	−	−
32	Laboratory tap	July 12	do	190	−	+	−	+
33	Fisher tap	do			−	+	−	+
34	Laboratory tap	July 13	Liquefied.	180	−	+	−	−
35	Fisher tap	do			−	−	−	−
36	Sheeley tap	July 14			−	−	−	−
37	Laboratory tap	do		370	−	+	−	+
38	do	July 15		660	−	+	−	+
39	Sheeley tap	do			−	−	−	−
40	Laboratory tap	July 16		Spreader.	+	+	−	+
41	do	July 17		300	−	+	−	+
42	Sheeley tap	do			+	+	+	+
43	Laboratory tap	July 18		498	+	+	+	+
	Average		411	280				
	Percentage positive				20.9	74.4	16.2	69.0

The results of the bacteriological examinations of the water were about what could have been anticipated from the sanitary survey and added nothing material to the information obtained by the field inspection of the water supply except the fact that bacteria of intestinal origin in the water would survive after the water had traversed the closed conduit and the city mains.

Although the general epidemiological features of the situation suggested that the public water supply had not been the predominant factor in the distribution of typhoid infection in North Yakima year after year, it seemed quite probable that the water supply had

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FIG. 4.—REPRODUCTION OF A PHOTOGRAPH, TAKEN BY MR. A. L. OSTRANDER ON JULY 17, 1911, SHOWING A PRIVY WHICH WAS OVERHANGING A SMALL STREAM WHICH FLOWED INTO THE WAPATOX CANAL (SEE Y IN FIG. 5 AND CHART V).

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FIG. 5.—REPRODUCTION OF A PHOTOGRAPH, TAKEN BY MR. A. L. OSTRANDER ON JULY 17, 1911, SHOWING LOCATION OF PRIVY (Y) IN RELATION TO THE WAPATOX (THE PACIFIC POWER & LIGHT CO.) CANAL (+).

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been at times a contributing factor. Any water supply contaminated with human excreta to the extent that this supply was can not reasonably be regarded as being other than a potentially dangerous supply and one which is liable at any time to convey sufficient infection to cause an extensive epidemic of typhoid fever among the users of such water.

In view of all the conditions, the writer, on June 19, just after having made an inspection of the watershed, recommended to the city council and to the manager of the water company (the Pacific Power & Light Co.) that the city's water supply be subjected to some process of purification which would remove from the water such dangerous contamination as might enter it from time to time from the constant sources of pollution, such as privy contents, stable manure heaps, etc., on the watershed, and to which the water was exposed in its course along both the river and the Wapato (the Pacific Power & Light Co.) Canal. On account of its recognized efficiency when properly applied, its cheapness, its freedom from danger, and the ease and quickness with which it may be applied, treatment of the water supply with hypochlorite of lime was suggested as the process of purification to be applied at once.

The apparatus was installed and the treatment of the whole public water supply with hypochlorite of lime was begun in the latter part of July.

THE MILK SUPPLY.

Practically all of the milk consumed in North Yakima originates in or within 10 miles of the city. About one-half of the supply is obtained from cows kept in the city and owned by private families, and the rest of it is obtained from dairy farms in the vicinity of the city and is distributed by public dairymen. Many of the families keeping one or two cows in the city sell milk to as many as 10 or 15 households. At some of the private homes from which milk was being distributed the general sanitary conditions were found to be very poor and the methods of handling the milk very faulty.

The milk from the dairy farms is distributed by six dealers. Some of the dealers bottle the milk at the dairy farm and others bring the milk to the city in bulk and bottle it there. The writer made an inspection of all the dairy farms and of all the milk depots in the city. At each and all of them the conditions were found, from a sanitary standpoint, to be far from satisfactory. On the farms generally, polluted water supplies were used for washing the milk cans and bottles. Privies of grossly insanitary type, with contents freely exposed to flies, were in use. Throughout the processes of handling, the milk and the milk vessels were being exposed to dangerous contamination by flies.

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At one of the city dairies the bottles of milk were placed for cooling in a shallow box through which flowed water from an irrigation ditch which at that time was grossly polluted with the contents of a number of privies in the immediate neighborhood. The irrigation ditch water was very liable to get into the milk in any of the bottles not having absolutely tight-fitting stoppers, and small amounts of it certainly reached the mouths and pasteboard caps of practically all of the bottles. The owner of this dairy stated that the water used for washing cans and bottles was boiled city water brought from his residence, which was about 60 feet distant from the dairy house. The water of the irrigation ditch which flowed through the dairy house, where the bottling and canning was done, seemed, however, to be suspiciously convenient for washing purposes.

At another one of the city dairies the room in which the bottling of the milk was done was found at the time of inspection to be literally swarming with flies. In each of several cans of milk, which milk a short while before had been run through the pasteurizer and the cooling machine, from 10 to 15 drowned or drowning flies were found. On the cloth through which the milk was being strained as it ran from the cooling machine into the cans there was a layer of dead flies about two deep and covering an area of about 4 inches square. The owner and manager of this dairy claimed that he operated his pasteurizing machine most carefully, but he seemed to be working on the theory that milk once cleansed would always be clean, no matter how much filth was added to it subsequently.

At most of the dairy farms and city dairies no pretense was made at sterilization of milk bottles, the bottles after having been distributed to various homes in the city being returned to the dairy, washed usually with soap powder and lukewarm water, refilled with milk, and redistributed.

In view of all the conditions, it seems very probable that milk has been one of the important factors in the distribution of typhoid infection in North Yakima.

In May of this year the city council passed a fair, reasonable, and quite adequate ordinance for the safeguarding of the city's milk supply. That ordinance should be rigidly enforced, and all persons selling milk, in however small or however large quantities, in the city of North Yakima should be required to comply with its provisions.

GENERAL SANITARY CONDITIONS.

In certain respects the sanitary conditions in North Yakima are far above those in the average American city of comparable population. There are no congested districts. The city is laid out along modern lines. The streets are wide and generally well paved. The

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city blocks are bisected by alleys of ample width to permit wagons to pass through. The majority of the dwelling houses are of good construction and are maintained in a satisfactory state of cleanliness. In the residential sections there are no continuous closely built rows of houses—practically every home having a yard around it. At many of the homes the yards are quite extensive and well kept. The climate is salubrious. The winters are mild, and the summers, though hot, are dry and not depressing. At the time of the investigation the garbage disposal service was found to be quite good. The ordinance requiring every household to be provided with a water-tight and properly covered garbage can was being remarkably well enforced. The garbage is removed from the houses and ultimately disposed of by the municipality. An objection to the garbage wagons is that they are not covered. The garbage is hauled to a public dumping ground outside the city, mixed with street sweepings, and other rubbish from the city, and burned.

In certain respects the sanitary conditions in North Yakima were found at the time the investigation was begun to be obviously faulty and dangerous. About two-thirds of the city's area were reached by both the water-carriage sewerage system and the public water supply. (See maps 1 and 2.) In some sections there were water mains but no sewers, and in others there were sewers but no water mains. At residences in the nonsewered sections, privies, privy vaults, or cesspools of grossly insanitary type were generally in use. At many of these residences shallow wells, varying in depth from 15 to 35 feet, and dangerously exposed to pollution with human excreta from near-by privies, were being used as sources of water for drinking and general domestic purposes. According to the observations of Kelley and Wilber, typhoid fever was especially prevalent in the summer of 1910 among the users of water from these wells. A number of the residences in the sewered sections, some in the heart of the city, had not been connected with the sewerage system. It was estimated that at the time the investigation was begun there were about 800 insanitary privies and about 200 insanitary cesspools within the incorporated limits of the city. The contents of the privies were freely exposed to flies. The contents of cesspools, though usually not directly exposed to flies, contributed greatly to general soil pollution. In many instances chickens, dogs, cats, and other animals had free access to the excreta in the privies. Many of the privies drained into irrigation ditches. Open privies in some instances were practically overhanging irrigation ditches.

In the sections not supplied with city water a certain proportion of persons, regardless of warnings, would use the polluted irrigation-ditch water for washing dishes and occasionally for drinking. The water from the irrigation ditches is used quite generally throughout

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the city for watering small truck patches in private gardens. The soil has poor filtering quality and consequently infectious matter may be carried considerable distances by subsoil seepage. The subsoil seepage resulting from irrigation is extensive. During the irrigation season (May to December) many of the basements and cellars in the city are flooded to a depth of several feet with the subsoil water. The drainage through the city follows the slope of the land from west to east. Conditions in respect to privies in a western section of the city, locally referred to as "the modern addition," were particularly bad. The city government is to be commended for the steps which it has taken recently to have the irrigation ditches in the western section incased and to have drainage canals constructed for the purpose of preventing the periodic flooding of the city with subsoil water. It should be stated, however, that strictly from a standpoint of typhoid-fever prevention it would be much less costly and much more efficacious to prevent the dangerous pollution of the subsoil and the irrigation-ditch water by putting into and keeping in sanitary condition the privies and cesspools in the western section of the city. There were many private stables in the city, and at practically none were there fly-proof receptacles provided for the horse manure. Thus ample breeding grounds for flies were afforded, and flies were remarkably abundant. The writer has been in no city at the height of the fly season in which flies were more numerous than they were in North Yakima in the latter part of June, 1911.

The very obvious insanitary conditions in the community, permitting extensive dissemination of human excreta by fingers and flies and water and through foods, afforded an all-sufficient explanation of the high rate of prevalence of typhoid fever in North Yakima in the summer and fall seasons year after year.

The importance of insanitary privies and cesspools as sources of typhoid infection in the city may be appreciated when considered in connection with the probable number of typhoid-bacillus carriers in the community. From the results of a canvass made by the writer, about 14 per cent of the population have had typhoid fever at some time in their lives. About 3 per cent of persons recovered from typhoid fever are chronic typhoid-bacillus carriers. Hence 14,000 (the city's population) multiplied by 0.14 multiplied by 0.03 equals 58. With 50 or 60 chronic carriers and, during the summer season, probably a considerably larger number of temporary carriers in the city, it is readily conceivable that if many persons in that population use insanitary privies that a number of foci of endogenous typhoid infection will certainly be established.

There were ample city ordinances prohibiting the maintenance on premises of nuisances—such as insanitary privies and improperly

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stored collections of stable manure—detrimental to health, but in view of the large number of violators the practical enforcement of such laws was a difficult problem.

THE CAMPAIGN AGAINST TYPHOID FEVER.

The investigation was begun at a time which, judging by the records for previous years, was about one month prior to the beginning of the usual annual period of maximum causation rate of typhoid fever in North Yakima. Judging from the general features of the situation and from the findings of a previous investigation (by Kelley and Wilber) it seemed clear that the high annual prevalence of typhoid fever in the city had been due very largely to insanitary local conditions and neglect of proper precautionary measures at the bedsides of persons sick with the disease. The people generally were unusually aroused about the situation. For all these reasons, the time appeared to be particularly opportune for an energetic sanitary campaign. By applying the measures apparently indicated their efficacy could be determined by the results.

The work was directed especially toward the correction of the conditions most obviously at fault. Steps had already been taken for the maintenance of an exceptionally efficient city health organization. A well-equipped bacteriological laboratory had been established. On July 1 the position of county health officer and that of city health officer were combined. Thus a position was created which carried a reasonably adequate salary, viz, $5,000 per annum, and the health officer was required to devote all of his time to health work. The services of a well-qualified physician, appointed on the recommendation of the local medical society, were secured.

On the recommendation of the writer a professional female nurse was engaged by the health department for the special purpose of visiting homes of typhoid-fever patients to advise about and supervise bedside precautions. Provision was made for furnishing free disinfectants from the health office to homes of typhoid-fever patients when the families were not readily able to purchase disinfectants. The writer recommended that the health department treat liberally with strong chloride of lime solution every privy, cesspool, and septic tank in the city. The disinfection in the section east of the railroad (see map No. 1), comprising the area in which the outbreak of May–June had occurred, was completed on July 10. The sluicing of privies with the disinfectant solution was a kind of "shotgun disinfection," it is true, but it probably did some good.

Frequent public addresses were made urging the people generally to cooperate. The local press rendered signal service in arousing and keeping aroused intelligent public sentiment. The cooperation of the medical profession, of the citizens' health committee, of the

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commercial club, and of other business organizations in the city was especially solicited and obtained to a gratifying extent. In the writer's opinion the most important single measure to be carried out was the abolishment of insanitary privies and cesspools, and their replacement with either sanitary and properly connected water-closets or sanitary privies. A citizens' sanitary league was formed under the auspices of the commercial club. This league had as its primary and chief purpose the correction of insanitary conditions in respect to human excreta, stable manure, and garbage on premises. Eligibility to membership was constituted by having all residences either occupied or owned by the applicant provided with (1) sanitary water-closets, properly connected with the sewerage system, or sanitary privies, and (2) with sanitary (fly-proof) receptacles in which whatever garbage or stable manure was on the premises could be and would be properly stored for ultimate disposal. In order to become a member the candidate had to present at the headquarters of the league an application setting forth that all the conditions of membership had been complied with and viséed by the health department. After registration and upon the payment of a fee of 25 cents the member would be presented with a button which bore the impressive motto "Do it now." The money collected from the payment of fees was used for charitable work in furtherance of the purposes of the league. The expressed intention of the league was to enlarge the enrolled membership to such an extent that every good citizen would have a feeling of shame if seen on the street without having on one of the distinctive buttons. At the health office an exhibit consisting of models of sanitary privies, manure boxes, garbage cans, and fly traps, of pictures, charts, etc., was open to the public at all hours of the day.

The popular sentiment aroused through the various agencies served not only to cause many individuals to set to work at once, on their own initiative, to put their premises in order, but also to strengthen and facilitate the work of the health department in the enforcement of the laws and regulations. During July and August nuisances were abated at the rate of about 20 a day. During June, July, and August 271 sanitary privies were installed in the place of insanitary privies or cesspools. In the same period 146 residences at which insanitary privies or cesspools had been in use were connected with the water-carriage sewerage system. Sanitary manure boxes were installed at a good rate, and thus the breeding of flies greatly reduced. Extensive trapping of flies was carried on in the business district of the city. Many large traps—some measuring 2 or 3 feet in width and height—were kept on the streets in front of or in the alleys to the rear of business places such as restaurants, grocery stores, livery stables, etc. The trapping was done by interested individuals or

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business firms. The writer saw a collection of flies which measured over a bushel and a half and which represented the catch at one place in eight days. In the middle of July, 1911, it was generally agreed by intelligent observers that there appeared to be in North Yakima only about half as many flies as had been usual for the corresponding period of previous years. The public water supply was somewhat improved by the treatment with hypochlorite of lime, but according to the record of the results of the examinations of the water by the city bacteriologist the treatment of the water during the greater part of the period from July 25 to September 20 was far from efficient. It seems, from all the data now at hand, that the reduction accomplished in the prevalence of typhoid fever in North Yakima for the summer and fall of 1911 can be reasonably attributed in but small part, if any, to the improvement in the public water supply.

RESULTS OF THE CAMPAIGN.

On September 1, 1911, there were reported as being under treatment in the city of North Yakima only five cases of typhoid fever. Of that number four of the patients had been brought, after onset of illness, from their homes outside of North Yakima to the hospital in the city for treatment, and one of the patients was a man who, though having his permanent residence in the city, had spent the greater part of his time during the 30 days just prior to the onset of his illness away from North Yakima and in different sections of the surrounding country. In view of the splendid spirit of cooperation manifested by the practicing physicians toward the health department of the city, there is every reason to believe that all clinically recognizable cases of typhoid fever developing in North Yakima since May 1, 1911, have been reported to the health office. No accurate records are available, but from the data at hand the writer estimates that there were under treatment in North Yakima on September 1, 1910, between 50 and 100 cases of typhoid fever. Even if the lowest figure is taken, the number of cases on September 1, 1911, was only one-tenth of the number under treatment on the corresponding date of 1910. In other words, the prevalence of the disease, as indicated by the number of cases on hand at the height of the usual typhoid-fever season, showed a reduction for 1911 of over 90 per cent as compared with the average for the several previous years.

From June 13 to September 21, 1911, 24 cases of typhoid fever were reported in North Yakima. Of that number, 20 certainly contracted the infection away from the city and only 4 contracted the infection and developed the disease in North Yakima during that period.[1] For

[1] From Septebmer 21 to November 23, 1911, 23 cases of typhoid fever were reported in North Yakima. Of that number 16 were in persons who contracted the infection while away from the city.

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the corresponding period of 1910 the writer estimates from the report of deaths and from the data collected by Kelley and Wilber[1] that between 150 and 200 cases of typhoid fever occurred among persons who contracted the infection and developed the disease in North Yakima. It is unfortunate that complete statistics are not available for the purpose of pointing out accurately the very marked reduction in the rate of prevalence of typhoid fever in North Yakima for 1911. The results of the campaign; however, even when estimated most conservatively, are very striking.

North Yakima has demonstrated the effectiveness of reasonable and practicable measures for the prevention of typhoid fever, and has furnished for every community in the world where this preventable disease is highly prevalent an example most worthy of emulation.

CONCLUSIONS.

1. The high rate of prevalence of typhoid fever in North Yakima in the summer and fall of the years 1908, 1909, and 1910 was due for the most part to the local dissemination of human excreta from insanitary privies, privy vaults, cesspools, septic tanks, and bedsides of the sick to the mouths of persons by fingers, flies, foods, and water.

2. Exogenous infection introduced into the city through the public water supply, milk supply, and fruit and vegetable supply very probably has contributed from time to time to the prevalence of the disease, but the high rate of prevalence of typhoid fever in North Yakima year after year has been caused chiefly by infection of distinctly endogenous character.

3. The outbreak of typhoid fever in North Yakima in May-June, 1911, was caused beyond reasonable doubt by infection in water pumped either wilfully or by accident from the Cascade Lumber Co.'s mill pond into the city water mains.

4. The prevalence of typhoid fever in North Yakima for the summer and early fall of 1911 was reduced by about 90 per cent as compared with the rate for the corresponding period in previous years by the carrying out of reasonable measures directed especially toward the correction of insanitary local conditions.

5. The results of the campaign against typhoid fever in North Yakima in the summer of 1911 are striking and indicate that the high annual prevalence of typhoid fever in the towns and rural districts generally of Yakima County is amenable to very marked reduction by the application of simple measures for the correction of insanitary local conditions.

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[1] Studies in Typhoid Fever by the Washington State Board of Health during 1909–10, pp. 23–24 and 40.

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RECOMMENDATIONS.

1. Abolish every insanitary privy, privy vault, cesspool, and septic tank in the city and replace those in the nonsewered areas with sanitary privies.

2. Exercise rigid official supervision over all privies to make sure that they are maintained at all times in sanitary condition.

3. Provide a municipal service for the proper disposal of privy contents.

4. Rigidly enforce laws and regulations requiring every habitation within the publicly sewered and watered areas to be properly connected with the sewerage system.

5. Extend the public water system and the water-carriage sewerage system as rapidly as possible to reach all sections of the city.

6. Enact an ordinance prohibiting the occupancy of any new or any vacated building until after a permit to occupy has been granted by the health department, the health department to issue such permit only after due inspection and determination that the prospective residence is provided with proper sanitary devices.

7. Rigidly enforce ordinances prohibiting the maintenance on premises of such nuisances as collections of stable manure and garbage not kept in fly-proof containers.

8. Make every day clean-up day for all streets, alleys, and back yards in the city.

9. Have exercised under official supervision at the bedsides of all patients suffering from or suspected to be suffering from typhoid fever rigid precautionary measures to prevent spread of the infection.

10. Safeguard the public water supply by the following measures:

(*a*) Sanitary patrol of the watershed to prevent pollution of the water with human excreta.

(*b*) A change of location of the intake so that the water will be received from the river at a point upstream from the mouth of the Tieton River.

(*c*) An extension of the closed conduit so that the water will be protected from pollution throughout its course from the river to the mains in the city.

(*d*) Replacement of the old reservoir on Nob Hill, if there be need for a reservoir, with a reservoir constructed either of cement or of other material impervious to water.

11. Pass and strictly enforce an ordinance requiring the purification of the public water supply to such a degree that the water will not contain at any time more than 100 bacteria to the cubic centimeter, nor an average for 10 days of more than 1 colon bacillus to 200

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cubic centimeters. The measures for purifying the water suggested for consideration are:

(*a*) Adequate treatment with hypochlorite of lime.

(*b*) Filtration.

12. Enact an ordinance prohibiting the sale or the offering for sale in the city of any water which may be shown by bacteriological examination not to be within the standard of purity defined in recommendation 11 for the public water supply.

13. Abolish the shallow wells in the city as rapidly as the extension of the public water supply makes practicable, and in the meanwhile prevent, so far as practicable, the use of water from dangerously polluted wells or springs.

14. Rigidly enforce the ordinance passed in May of 1911 for the safeguarding of the milk supply.

15. Enact an ordinance prohibiting the sale or the offering for sale in the city of any milk or green garden truck obtained from farms not provided with either sanitary privies or sanitary water-closets.

16. Enforce, as rigidly as is practicable, measures directed toward the prevention of contamination of any foods or beverages whatsoever in North Yakima by fingers or flies soiled with human excreta.

17. Maintain the strength of the health department so that the city government can perform with reasonable adequacy its duty for the preservation of the health and lives of the people of North Yakima.

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FIG. 6.—A SINGLE-SEATED SANITARY PRIVY. (STILES, 1910.)

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APPENDIX A.

CONSTRUCTION AND MAINTENANCE OF A SANITARY PRIVY.

"The prevention of typhoid fever in the United States to-day depends on an improvement in the present methods of disposing of human excreta. Until all the people can be taught that the most dangerous material with which they come in contact in their daily lives is filth from human bodies, and until their sanitary habits are so changed that human filth is prevented from reaching human mouths, the prevention of typhoid fever can not be consummated." (From the Report of the Committee on Typhoid Fever to the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-second Annual Meeting, held at Los Angeles, June, 1911. Journal Am. Med. Assn., Sept. 9, 1911, Vol. LVII, pp. 891–895.)

A privy to be sanitary must meet the following requirements:

(1) The excreta must be received in a water-tight receptacle (tub, pail, box, barrel, tank, or vault) so that pollution of the soil under and around the privy is prevented, and so that the excreta may be readily removed from the privy and safely disposed of.

(2) Flies and other insects, domesticated animals, and all other living creatures liable to scatter disease germs must be prevented from having access to the excreta.

Any type of privy, no matter how simple and cheap, which meets these requirements is sanitary, and any type of privy, no matter how elaborate and costly, which does not meet these requirements is insanitary.

Two types of sanitary privies are generally recognized, namely, the so-called "dry system" and the so-called "wet system."[1] In the "dry-system" privies, dry earth, wood ashes, or lime is kept in the privy and is sprinkled liberally over the excreta in the receptacle under the privy seat every time the privy is used. In the "wet-system" privies some fluid is used in the receptacle either (1) to disinfect the excreta, or (2) to serve as an insect repellant, or (3) to aid in the liquefaction of the excrement by natural fermentations.

Figures 6 and 7 represent an outhouse which may be used either as a "dry system" or as a "wet system" privy. Note (1) the water-tight receptacle under the seat, (2) the screening (*w*) over the ventilators to keep out flies, (3) the cover (*k*) over the seat to prevent flies, which may occasionally get into the house as persons pass in and out through the door, from having access to the excreta in the receptacle, and (4) the back trapdoor (*oc'*) to prevent animals from having access to the receptacle. The trapdoor should be kept closed down except when the receptacle is being removed or replaced. If the location of the privy is such that there is no particular advantage in removing the receptacle, for the purpose of emptying and cleansing it, through the rear of the house the construction of the privy may be simplified somewhat by having the back of the house boarded up solidly and the seat and

[1] The construction and the advantages and the disadvantages of different types of privies are given in detail in a recent article prepared by C. W. Stiles and L. L. Lumsden and published by the U. S. Department of Agriculture as Farmers' Bulletin 463. Copies of this bulletin, entitled "The Sanitary Privy," may be obtained without cost by sending a request to the Department of Agriculture or to a Congressman.

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the receptacle arranged as in figure 8. In fact, the receptacle with the seat and framework over it, as shown in this figure, may be placed in one of the outhouses, such as the barn, stable, or a shed already on the premises—thus saving the expense of building a special house for the purpose. If the receptacle is of sufficient stoutness to support the weight of a person sitting on it the contrivance may be still further simplified by dispensing with the box around the receptacle and having only a simply constructed and readily removable seat fitted tightly over the top of the receptacle, as indicated in figure 9. Whatever place the contrivance is kept in for use should be screened, otherwise flies are very liable to gain access occasionally through the hole in the seat to the excreta in the receptacle. This is particularly true if all persons using the contrivance are not very careful to keep the cover over the hole closed down except when the seat is occupied.

As a receptacle for the excreta any vessel which is water-tight may be used. The half of an oil barrel or a vinegar barrel, an ordinary wooden tub, a tin pale, a stone jar, a box made of boards and either zinc lined or heavily tarred, or even an ordinary candy bucket, which costs only 10 cents, will serve the purpose; but for safety, convenience, and (in the long run) economy, a tub, can, or pot made of iron and which will withstand repeated heatings to the boiling temperature has advantages. The receptacle should fit snugly under the seat so that there will be no space between the framework of the seat and the top of the receptacle through which flies or other insects may pass.

The privy should be maintained so that the contents of the receptacle will be free from decidedly disagreeable odors and in such form as to be conveniently removable for safe ultimate disposal. It is much safer to keep a disinfectant solution in the receptacle, so that all disease-producing bacteria in the excreta will be killed as the excreta are deposited in the privy, than it is to use a disinfectant only when the receptacle is to be emptied.

If dry earth, wood ashes, or dry air-slaked lime are sprinkled liberally over the excreta in the receptacle every time the privy is used the privy contents will be kept free from markedly disagreeable odors, but not all disease germs in the excreta will be killed, and the contents of the receptacle, being solid, can not be disinfected so readily and disposed of so conveniently and safely as they can be if kept in liquid form. If water is added and sufficient time allowed the natural fermentation or septic action will liquefy the excrement, and, due to evaporation and the evolution of gases, may lessen somewhat the volume of the excreta to be disposed of. If this "wet system" is applied to the ordinary type of sanitary privy (see fig. 7) the receptacle should be filled about one-fourth full of water and a cup of petroleum poured on the surface of the water to serve as an insect repellant. Two sets of receptacles should be provided. While one set is being used under the seat the other set should be covered and permitted to stand for about a week so as to lengthen the period of fermentation. The disadvantages of this system are the splashing, the frequency of emptying needed to prevent offensiveness, the liability to freezing, the expense of an extra set of receptacles, and the care needed to prevent the liquefied but still potentially infectious excreta from being spilt about when the cans are being removed or emptied. These disadvantages appear to more than surmount the slight advantages to be obtained from the natural fermentation or septic action, and in maintaining the ordinary type of sanitary privy (figs 7, 8, and 9) it seems much safer to use a disinfectant solution in the receptacle.

A disinfectant may be used conveniently and cheaply and under practically all climatic conditions as follows: Keep a vessel containing the disinfectant solution in or convenient to the privy and every time the privy is used for

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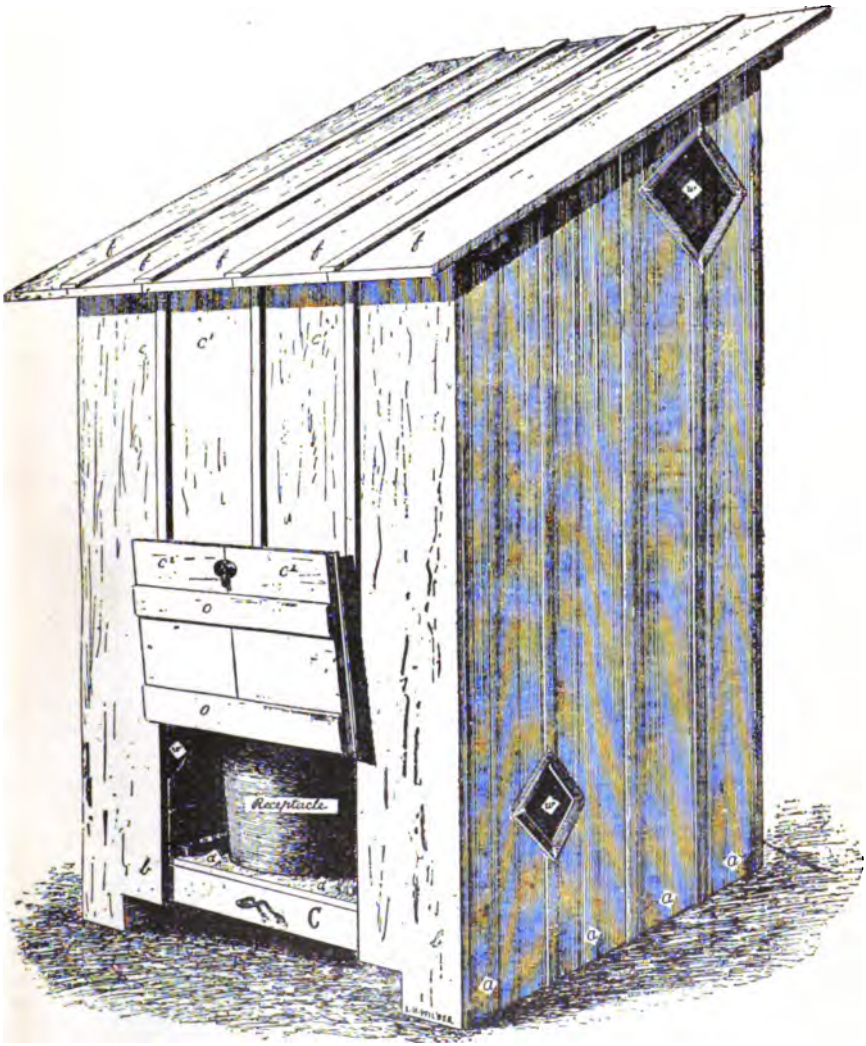

FIG. 7.—REAR AND SIDE VIEW OF A SINGLE-SEATED SANITARY PRIVY.
(STILES, 1910.)

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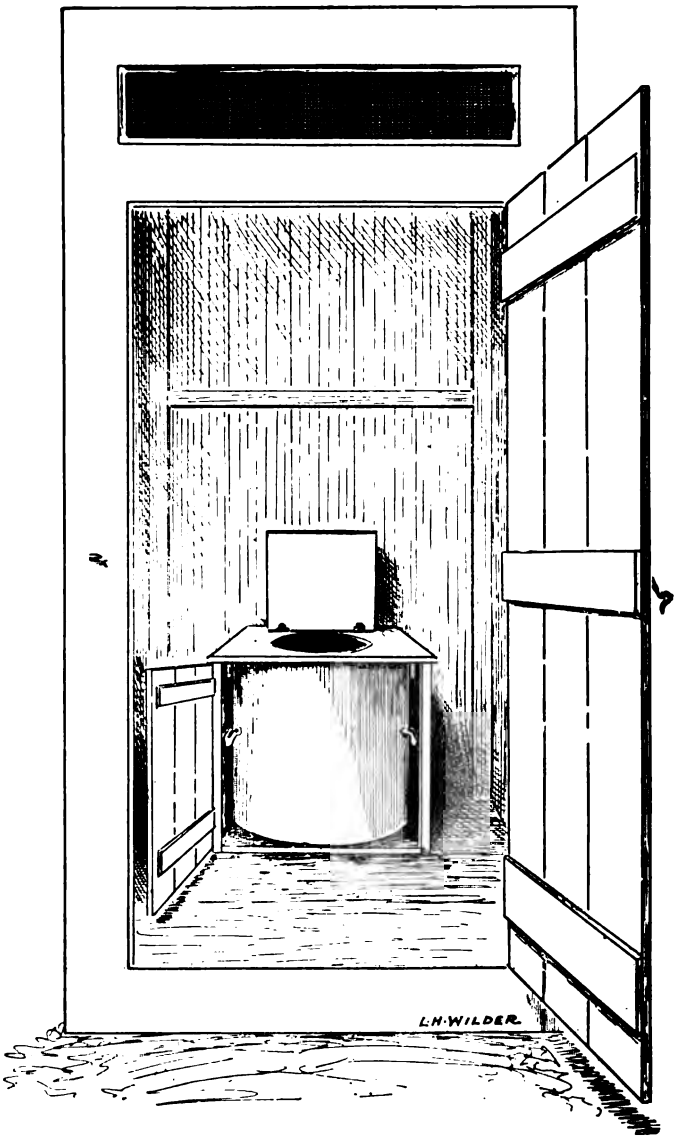

FIG. 8.—SANITARY PRIVY CLOSED IN BACK.

Box encasing receptacle is detached from structure of the house. Such a commode may be kept for use in a room in the dwelling house or in a barn or stable.

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defecation or urination, or both, pour about 1 pint of the solution into the receptacle. As the solution is added along with the excreta and the toilet paper the contents of the receptacle will be kept at a sufficient consistency to prevent objectionable splashing, and will be also free from decidedly objectionable odor. Furthermore, since most or all of the disease-producing bacteria in the excreta will be killed by the disinfectant solution, the chances for the occasional fly which may gain access to the contents of the receptacle to spread infection from the excreta will be greatly lessened. When the receptacle has become about two-thirds full it should be filled nearly to the top with the disinfectant solution and left standing for an hour or two, or more when convenient, before being emptied. For ultimate disposal privy contents treated in this way may be emptied in the manhole of a sewer (when practicable) or buried. If burial is resorted to the matter should be deposited not less than 300 feet from and downhill from any sources of water supply and not less than 2 feet underground.

Since chemical disinfectants can not be relied upon to destroy certain animal parasites liable to be in human excreta, chemically treated night soil should not be used as fertilizer, nor thrown out on the surface of the ground, nor carelessly buried.

Any one of the following disinfectant solutions may be used in the way described above for maintaining a "wet-system" privy:

(1) *Chloride-of-lime solution.*—Add 1 pound of good (fresh) chloride of lime to 8 gallons of water. Shake well and keep the solution in a well-stoppered vessel. This solution has the great advantage of cheapness and is thoroughly efficient. Dry chloride of lime which is exposed to the air rapidly loses its disinfectant properties. Chloride-of-lime solution if exposed to the air gradually loses its disinfectant properties. These facts should be kept in mind and precautions taken accordingly in the preparation and storage of the solution.

(2) *Quick lime solution.*—Made by adding good unslaked lime to water in the proportion of 10 pounds of lime to 10 gallons of water, just in the way that ordinary "whitewash" is made. Lime which has become air-slaked will not make a reliable disinfectant solution. Lime which does not steam up when added to water is not good. A barrel of milk of lime or "whitewash" can be made up conveniently at one time and kept with a tight-fitting cover over it in or near the privy and the solution added to the contents of the privy receptacle as needed. The milk of lime should always be well stirred up before being used.

(3) *Carbolic-acid solution.*—Add 1 pint of carbolic acid to 19 pints of water. If the ordinary "crude carbolic acid," which is only slightly soluble in water, is used, some soap or caustic potash or soda should be added to make a uniform emulsion. Carbolic solution has the advantage of retaining its disinfectant properties when exposed to the air, but has the disadvantages of being a dangerous poison and of being more expensive than solutions (1) and (2).

If a suitable (metallic) vessel is used for the receptacle, a fire may be built under the vessel and the excreta heated to boiling temperature (212° F.). If a wooden or concrete tank is used, the excreta may be transferred to some other vessel for heating. After disinfection by heat human excreta may be safely used for fertilizer.

From what has been said above it is clear that some intelligent care, labor, and expense are required to maintain a privy in sanitary condition. The results in the saving of human life and health and in the prevention of economic loss unquestionably more than justify the cost.

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In every community where it is practicable an efficient scavenger service under proper official direction should be provided for the care of privies and for the disposal of night soil. It has been found that when this work is left entirely to private families a sanitary condition of the privies in many instances will not be maintained.

Whatever can be done in simplification and in lessening expense and labor in the installation and maintenance of a safe system for the disposal of human excreta will increase the chances for its adoption.

THE L. R. S. PRIVY.[1]

An effort has been made to construct a device which will decrease the disadvantages and at the same time increase the advantages connected with the older types of privies. The results obtained from various experiments have been applied to an apparatus known as the L. R. S. privy. (Figs. 10, 11, 12, and 13.)

This apparatus consists of the following parts:

(1) A water-tight barrel or other container to receive and liquefy the excreta.

(2) A covered water-tight barrel, can, or other vessel to receive the effluent or outflow.

(3) A connecting pipe about 2½ inches in diameter, about 12 inches long, and provided with an open T at one end, both openings of the T being covered with wire screens.

(4) A tight box, preferably zinc lined, which fits tightly on the top of the liquefying barrel. It is provided with an opening on top for the seat, which has an automatically closing lid.

(5) An antisplashing device, consisting of a small board placed horizontally under the seat about an inch below the level of the transverse connecting pipe. It is held in place by a rod, which passes through eyes or rings fastened to the box and by which the board is raised and lowered. The liquefying tank is filled with water up to the point where it begins to trickle into the effluent tank.

As an insect repellent a thin film of some form of petroleum may be poured on the surface of the liquid in each barrel.

Practical working of the apparatus.—When the privy is to be used, the rod is pulled up so that the antisplashing board rises to within about 1 inch below the surface of the water. The fecal material falls into the water, but this board prevents splashing, and thus overcomes one of the greatest objections thus far raised to the wet system. After use the person sinks the antisplashing board by pushing down the rod, and the fecal matter then floats free into the water.

Although some of the fecal matter floats, it is protected both from fly breeding and fly feeding in the following ways: First, by the automatically closing lid; second, by the water; third, by the film of oil; and fourth, by having the apparatus located in a screened place, which should be done for additional safety. The film of oil also prevents the breeding of mosquitoes in the barrel. Accordingly, so far as the privy as a breeding or feeding place for flies and mosquitoes is concerned, the model in question completely solves the problem.

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[1] Lumsden, Roberts, and Stiles: "Preliminary note on a simple and inexpensive apparatus for use in the safe disposal of night soil." Public Health Reports, 1910, Nov. 11, v. 25 (45), pp. 1623–1629. Stiles and Lumsden: The Sanitary Privy. Farmers' Bulletin 463 (U. S. Department of Agriculture), pp. 17–21.

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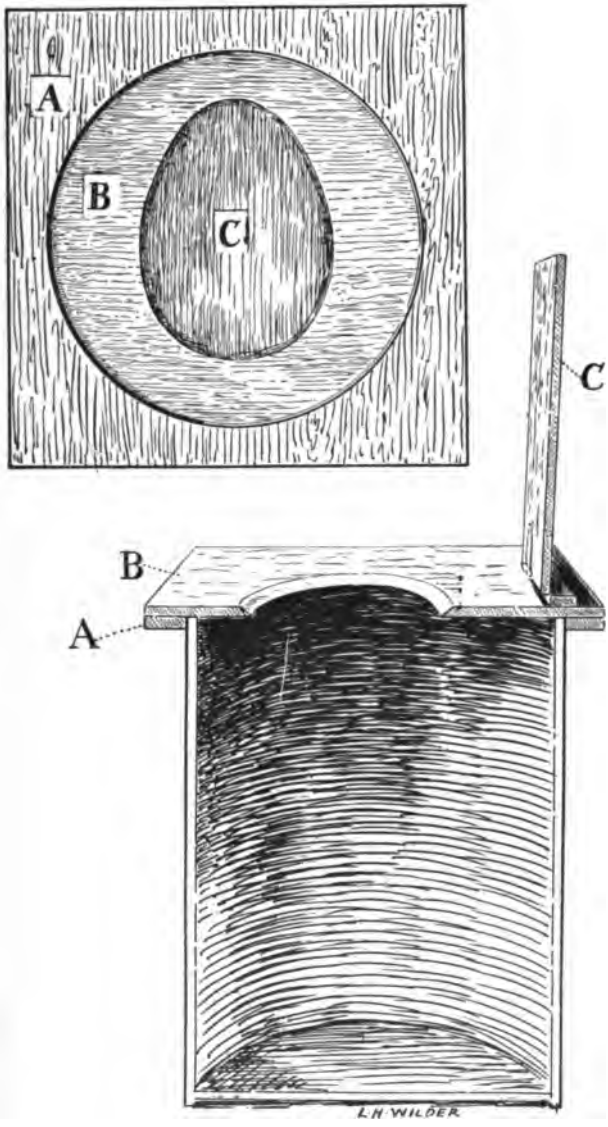

FIG. 9.—A SINGLE SANITARY DEVICE CONSISTING OF A RECEPTACLE, THREE BOARDS, A FEW NAILS, AND A HINGE.

The board A is sawed so as to fit snugly around the top of the receptacle, and is nailed to board B. The board C is fixed with a hinge on top of board B. Such a device may be kept for use in any suitable place on the premises.

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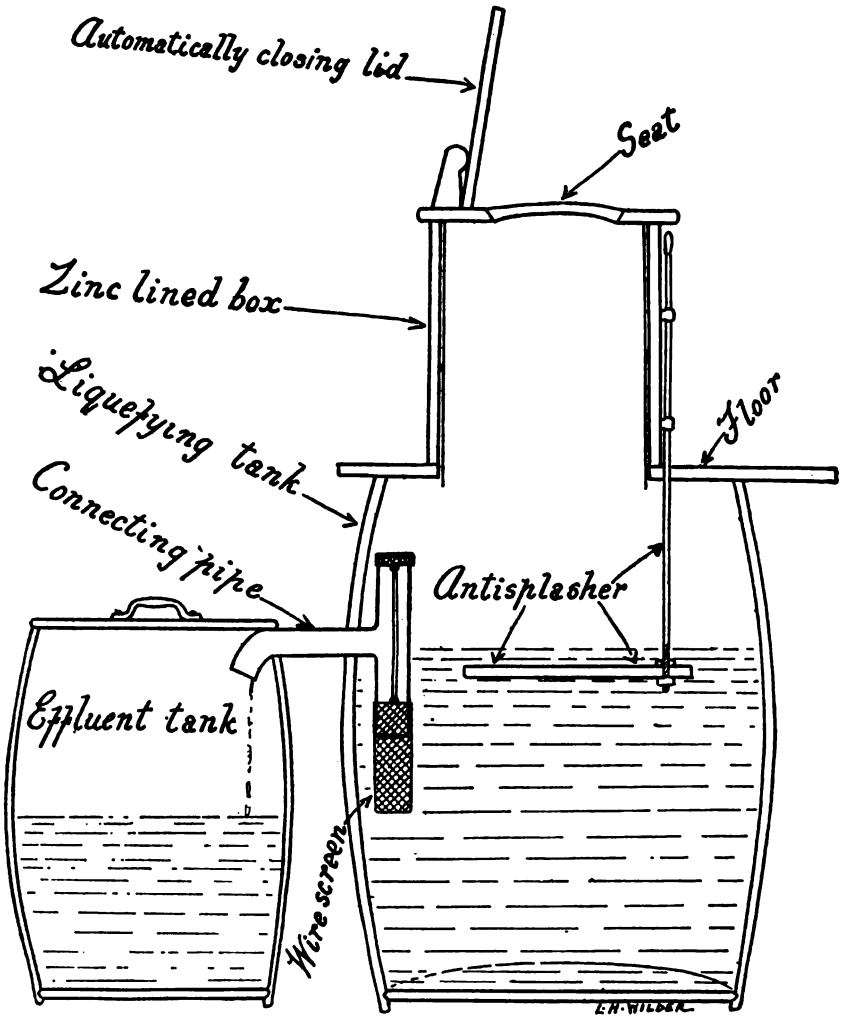

FIG. 10.—THE ORIGINAL L. R. S. PRIVY (LUMSDEN, ROBERTS, STILES, 1910).

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The fecal material becomes fermented in the water and gradually liquefies. As the excreta settle the level of the liquid is raised and the excess flows into the effluent tank, where it is protected from insects by the cover and a film of oil. This effluent may be allowed to collect in the tank until it reaches the level of the connecting pipe, when it may be safely disposed of in any one of the following ways:

(1) *Heat.*—Heat to boiling and then bury, or, if desired, it may be safely used after boiling as fertilizer.

(2) *Chemical disinfection and subsequent burial.*—A suitable combination of these two methods may be used certainly with reasonable safety.

(3) *Sewers.*—In partially sewered towns the effluent may be emptied into the sewers.

It is thus seen that this device appears to meet the following requirements:

(1) It solves the fly problem and the mosquito problem, so far as the privy is concerned.

(2) It liquefies fecal material and reduces its volume, so that it may be safely disposed of more easily and cheaply than the night soil from other types of privies.

(3) It reduces odor.

(4) It reduces the labor of cleaning the privy and makes this work less disagreeable.

(5) It is of simple and inexpensive construction.

This device has been in constant operation in one of the workrooms on the main floor of the Hygienic Laboratory at Washington for 15 months and has been found entirely satisfactory. From July 12, 1910, to April 1, 1911, namely, 262 days, it was used 738 times, giving an average of 2¾ defecations (with urination) per day. The amount of overflow (effluent) from the liquefying tank was 59 gallons. The liquefying tank itself consists of an ordinary water-tight 40-gallon whisky barrel, and it was not necessary during the period of experimentation (8 months) either to add water or empty it.

Tests of this device are now being made in out-of-doors privies in order to determine the effect upon it of varying conditions of temperature and humidity. Tests are also being made to bring out whatever objectionable features may arise in connection with its general use and to determine the simplest methods of managing the device so that any family may keep it in proper working order without difficulty.

The handle of the antisplasher should come up through the seat board at the side of the hole. By this arrangement the antisplasher can be raised entirely out of the water and thus used to sink the toilet paper and fecal matter if too much floats on the surface. (Fig. 12.)

As an effluent tank various receptacles can be utilized. If an iron pot is used, it can be placed on stones or provided with legs, so that a space is left under it to permit the building of a fire and the effluent easily and cheaply disinfected by heat.

As a liquefying tank one may use either a barrel (fig. 10) or an iron tank, or a box (fig. 11), or a brick vault, or a concrete vault (fig. 13). Whatever is used for this purpose must be strictly water-tight. Iron or concrete will cost more than wood, but on account of greater durability will be more economical in the long run.

The larger the family the larger the liquefying tank must be. A 40-gallon barrel, such as a whisky or oil barrel, seems sufficient for a family of three adults. For a larger family the capacity should be increased by using two

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or more barrels or one larger receptacle, in the proportion of about 40 gallons' capacity to every three or four adults in the family.

One advantage the device possesses is that with very little expense it can be put in the outhouses already in use; in fact, it can be placed in any of the outhouses on the farm, such as barn or woodshed, and thus save the expense of building for this special purpose. Wherever put, it is very important to have it in a place sheltered against flies.

From the preceding experiments it is far from be readily foreseen that two factors, some of the last mentioned, which have not been found important in the indoor pit privy, may operate and in ways of temperature.

In cold weather the contents of the tank may freeze, or, due to lessened fermentation, may fail to liquefy the solids.

The evaporation of the liquids will vary greatly with the wind, humidity, and temperature, and the rate of the evaporation, the larger the surface of the liquid in the tank, the more.

So, in the summer, the odor will increase, and it will be necessary to [illegible] the liquid in the tank. In order to prevent such [illegible] it may be [illegible] water from time to time. Just [illegible] water, [illegible] under adverse conditions, [illegible] for [illegible] at present, [illegible] for [illegible] for [illegible] years.

[illegible] that the principle of the L. R. S. privy is good. The [illegible] water [illegible] [illegible] [illegible] the [illegible] [illegible]

If [illegible] the indications are that [illegible] [illegible] [illegible]

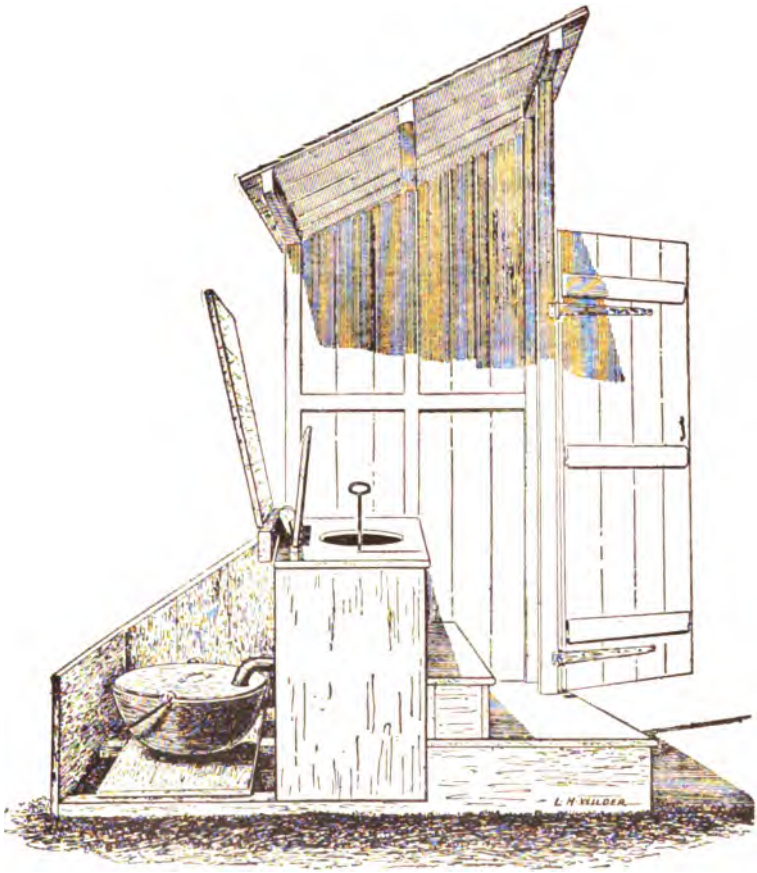

FIG. 11.—INSIDE VIEW OF L. R. S. PRIVY (STILES AND LUMSDEN, 1911).

The liquefying tank may be of wood (zinc lined or heavily tarred) or of iron.

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or more barrels or one larger receptacle, in the proportion of about 40 gallons' capacity to every three or four adults in the family.

One advantage the device possesses is that with very little expense it can be put in the outhouses already in use; in fact, it can be placed in any of the outhouses on the farm, such as barn or woodshed, and thus save the expense of building for this special purpose. Wherever put, it is very important to have it in a place screened against flies.

From the out-of-door experiments thus far it can be readily foreseen that two factors come into consideration which have not been found important in the indoor privy, namely, evaporation and changes of temperature.

In cold weather the contents of the tank may freeze, or, due to lessened fermentation, gradually become thickened.

The evaporation out of doors will vary greatly with the wind, humidity, and temperature in different regions, and the greater the evaporation the thicker the material in the liquefying tank becomes.

Should such thickening occur the odor will increase, and it will be necessary to add water to the liquefying tank. In order to prevent such thickening it may be found necessary in some instances to add water from time to time. Just how often and how much water should be added under adverse conditions has not yet been determined, but, so far as can be foreseen at present, probably a bucketful (about 2 gallons) added once a week will be sufficient for a single barrel used by a family of three or four adults.

Experiments have conclusively demonstrated that the principle of the L. R. S. privy is good. The details regarding the addition of water must be determined experimentally in different localities. Any intelligent man should be able to determine this point for his own locality.[1]

If this type of privy is managed fairly intelligently, the indications are that the liquefying tank will rarely need cleaning, probably not more than once a year. When cleaning does become necessary, this can be done in several ways: The tank may be taken out, and its contents burned or boiled; or the contents may be pumped or dipped out and burned or boiled; or a considerable amount (several barrelfuls) of water can be poured gradually into the liquefying tank and the sludge thoroughly stirred until it runs over into another vessel.

In the experimental L. R. S. privy the only paper used has been the regular toilet paper. This has liquefied with sufficient promptness. If heavier paper (such as newspaper) were used, this would break up more slowly, and allowance for it might have to be made by increasing the capacity of the tank. It is well to bear in mind the fact that the ink on newspaper is likely to irritate the skin. Corncobs and similar objects would certainly interfere materially with the successful working of any apparatus of this kind.

The device is better adapted for sections having warm or moderate climates than for those having long cold winters. But if the apparatus were kept in a room with a temperature maintained above the freezing point, or if the liquefying tank were sunk in the ground below the freezing line, or embedded in a pile of stable manure, or otherwise protected against freezing, the indications are that it could be operated successfully even in cold climates. Since the same outhouse may be operated either as a pail-system privy or as an L. R. S. privy, it probably would be convenient in some localities to alternate the systems with the seasons, the L. R. S. system being used during the warm-weather months, which are the months of greatest danger from excreta-borne infections, and the pail system during the cold-weather months.

[1] It should be understood that the L. R. S. privy is described simply as a type and may be modified to suit varying conditions.

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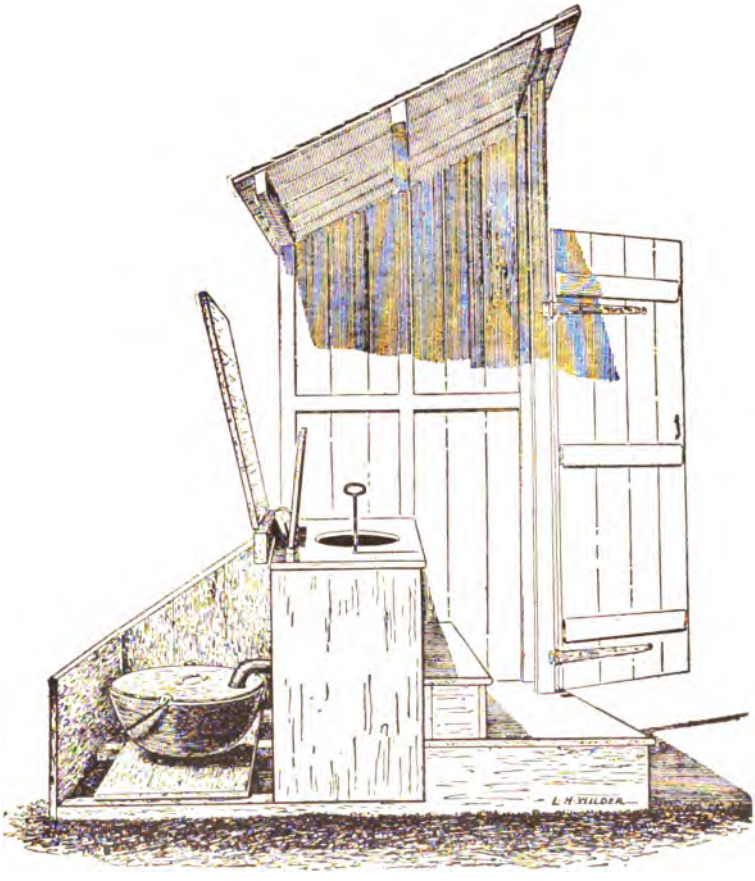

FIG. 11.—INSIDE VIEW OF L. R. S. PRIVY (STILES AND LUMSDEN, 1911).

The liquefying tank may be of wood (zinc lined or heavily tarred) or of iron.

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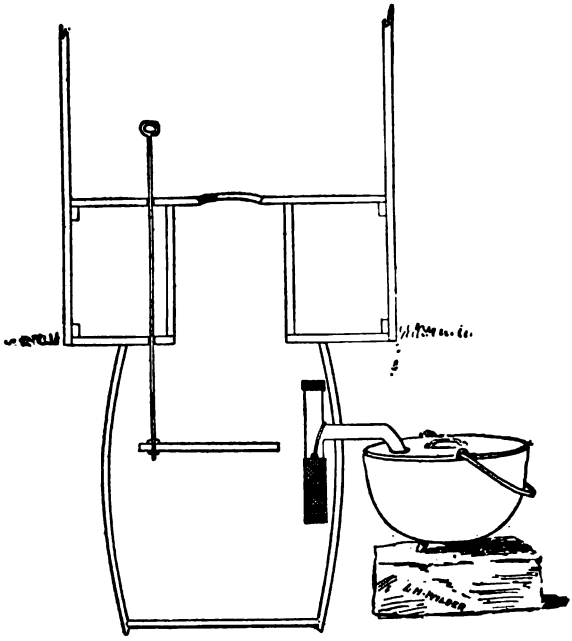
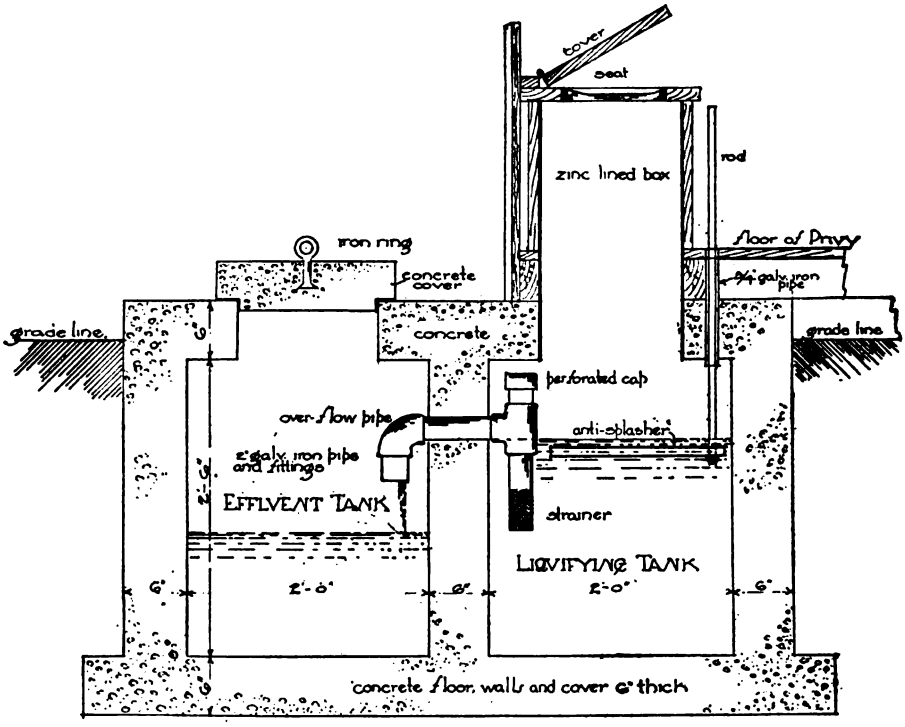


FIG. 12.—IMPROVED L. R. S. PRIVY. (STILES AND LUMSDEN, 1911.)



SECTION THROUGH CONCRETE TANKS & SEAT

FIG. 13.—CONCRETE TANKS AS A MEANS OF PERMANENCY IN USING THE L. R. S. METHOD.

This has all the advantages had by the barrels and will last indefinitely. It will cost more, perhaps, in the beginning than barrels, but in the end be cheaper. (Ferrell, 1911.)

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BILL OF MATERIAL AND DIRECTIONS FOR CONSTRUCTING PERMANENT CONCRETE TANKS.

[By John A. Ferrell, M. D., assistant secretary for hookworm disease to North Carolina Board of Health, Raleigh, N. C.]

To construct the concrete tank as a modification of the L. R. S barrel privy (fig. 13), excavate a pit at the site selected for the privy 3 feet 2 inches deep and slightly larger than the outside dimensions of the tank. The bottom of the excavation should be perfectly level to receive the concrete forming the floor for the tank.

Build the forms to the dimensions given on drawings, the outer form to be 3 feet wide by 5 feet 6 inches long, inside measurements. The two inner forms should be 2 feet square, outside measurements. When the two inner forms are set inside of the outer form there should be 6 inches left all around and between the inner forms, so that when filled all walls and the partition between the tanks will be 6 inches thick.

Mix the concrete in the proportions 1 part Portland cement, 2 parts clean sharp sand, and 4 parts clean creek or bank gravel free from loam or other foreign matter, or crushed stone of a size to pass a ¾-inch mesh screen. In mixing the materials the sand should be first spread in a mortar box or on a tight platform or mixing board, and the cement spread on top of the sand; the sand and cement should first be mixed dry, and then wet and mixed until it shows a uniform color. The gravel should be spread over the mortar and the whole batch turned over at least three times and until the gravel or stone is all incorporated into the batch and the consistency uniform throughout. Sufficient water should be added to make a wet mixture that will flow into place in the forms, and that can be puddled against forms with a shovel or tamping bar.

In depositing the concrete, first put down a 6-inch layer on the bottom of the excavation and puddle and tamp into place with a shovel or tamping bar. Next set up the forms on this base, keeping the spacing by using spacing blocks of wood cut 6 inches long, set between the forms. These blocks should be removed as soon as enough concrete is deposited in the bottom of the forms to hold them in place. The concrete should be well puddled and tamped against forms in order to insure a dense and water-tight wall.

The lid for the effluent tank can be cast in a mold of the required dimensions, and should have an iron ring embedded in the top while the concrete is green, to serve as a handle in lifting the cover.

In order to use the sanitary privy shown by accompanying cuts (figs. 6, 7, and 10) with this tank system, it is only necessary to line the space occupied by the can with zinc, cut a hole in the floor under the seat and immediately over the liquefying tank, and provide a float with rod, as shown by drawings.

Materials required for one concrete liquefying and effluent tank, as shown by drawings:

Walls and floor 6 inches thick.

Two and a half barrels Portland cement.

Three-fourths yard of sand.

One and one-fourth yards clean gravel of a size to pass a ¾-inch mesh screen and under.

One hundred and fifty feet ⅞-inch surfaced sheathing for forms.

One overflow pipe built up out of 2-inch galvanized-iron pipe and fittings, and with strainer and zinc lining for box under seat.

One piece ¾-inch galvanized-iron pipe 12 inches long, to act as a guide for antisplasher rod. This pipe should be run through an augur hole in the forms before the concrete is poured and plumbed up to come level with privy floor.

The antisplasher rod can be a ½ or ⅝ inch heart pine or hardwood rod let into augur hole in the antisplasher and fastened with a brad.

Oil or vinegar barrels (fig. 10) can be used for tanks if a cheaper and less permanent construction is desired. The barrels to be sunk below the surface of the ground or set on the surface and a platform and steps provided up to entrance. If set at the surface of the ground, additional materials will be required to board up around privy from the surface of the ground to floor line and for platform and steps, the quantity required depending on the height at which the tanks are set above the grade line.

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Appendix B.

MEASURES TO PREVENT THE SPREAD OF INFECTION FROM THE BEDSIDE OF A TYPHOID-FEVER PATIENT.

"The means by which typhoid fever may be prevented from spreading are very simple, very sure, and their cost next to nothing." (William Budd. Typhoid Fever. London, 1873.)

"The case of typhoid fever now in your house was caused by the ignorance or the carelessness of some one; don't let your carelessness cause the illness, and maybe the death, of others." (Health Department of Richmond, Va., 1909.)

Typhoid fever is communicable from the sick to the healthy. The disease is both "infectious" and "contagious." Every person who has typhoid fever has recently swallowed some typhoid germs which have come in some way from some other person. The germs (the infection) of typhoid fever leave the body of a person sick with the disease in the stools and urine. A number of these germs may be contained in a particle of feces or in a droplet of urine too small to be seen by the unaided human eye. Fingers soiled to the slightest extent with the excreta from a typhoid-fever patient and flies which have had access to such excreta may carry typhoid germs directly to human mouths or to beverages and foods which are subsequently to be swallowed by persons. If excreta from typhoid-fever patients are carelessly disposed of, they may be carried by seepage or drainage, on the feet of animals, and in other ways to water supplies and to certain fruits and vegetables. Infection in water may be transmitted to milk, oysters, and other foods.

In these various ways the infection proceeding from the discharges of the typhoid-fever patient may be distributed far and wide.

To prevent the spread of infection from a typhoid-fever patient the following measures should be rigidly carried out:

(1) *Disinfect the stools and urine (and the expectoration if there be any) immediately upon their escape from the body.*—Keep constantly in the bedpan or other vessel used to receive the discharges a small quantity of the disinfectant solution. As soon as the stools or urine are received in the vessel add a quantity (1 to 2 pints) of the disinfectant solution equal in volume to about double that of the excreta to be disinfected. Wipe the soiled parts of the patient first with dry paper and then with paper or a cloth moistened with a solution made by adding 1 part of the disinfectant solution for use in the bedpan to 2 parts of water. If clothes are used, they should be either burned or thrown into a vessel containing the full-strength disinfectant solution and afterwards boiled in the solution. The paper which has been used for wiping should be submerged in the disinfectant solution in the bedpan. The disinfectant solution and the excreta should be mixed thoroughly, and if there are lumps of fecal matter they should be broken up, because disinfectants can not kill germs unless brought in actual contact with them. Cover the vessel containing the excreta and disinfectant solution and let it stand for about one hour before emptying. The disinfected excreta should be emptied into a water-closet or a sanitary privy, or else into a hole in the

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ground at least 2 feet deep, dug especially for the purpose, protected against invasion by animals, and remote from wells, springs, or other sources of water supply. If deposited in the ground, the excreta should be kept thoroughly covered with earth. After being emptied, the bedpan should be thoroughly rinsed inside and out with the disinfectant. One of the best disinfectants for the stools and urine is chloride of lime solution, made by adding one-half pound of good chloride of lime to 2 gallons of water. A fresh solution should be made up every day, or if a supply for several days is prepared at one time the solution should be kept in a practically air-tight vessel. An ample quantity of the disinfectant solution should be kept in the patient's room, convenient for use at all times. Carbolic acid (1 part to 19 parts of water) and formalin (1 part to 9 parts of water) are thoroughly efficient disinfectants for stools and urine, but much more expensive than chloride of lime. If carbolic acid or formalin solutions are used, they should be applied in the same quantity and in the same way as described above for the chloride of lime solution. Only disinfectants of thoroughly recognized efficiency should be used. Many of the patented preparations advertised as "disinfectants" or "germicides" have little or no germ-destroying property. If good chemical disinfectants are not immediately available, the stools and urine may be disinfected with boiling water as follows:

Pour into the vessel containing the excreta an ample quantity (a quart to a half gallon, or at least three or four times as much as the volume of stools and urine to be disinfected) of actually boiling (and bubbling) water. After the boiling water is added, cover the vessel and let stand for one-half hour before emptying.

(2) *Disinfect promptly (and certainly before removal from the room) everything which may possibly have become soiled to the slightest extent with either the stools or the urine of the patient.*—Great care should be exercised to prevent so far as practicable the articles in the room from becoming soiled with the slightest (even microscopic) quantities of the patient's excreta. In preparing the room for the care of the patient, all unnecessary hangings, draperies, and upholstered furniture should be removed. The room should be clean, well ventilated, and furnished only with articles which may be readily and thoroughly cleansed. Textile carpets and rugs should be removed and replaced, if need be, with linoleum. The room should be freed and kept freed from flies and other insects. Dogs, cats, and other domestic pets should be kept out. The mattress of the bed should be protected from soiling by keeping a rubber sheet or folds of paper (newspapers will do) placed over it and under the bed sheet. It is decidedly advantageous to dispense with bedclothes for the patient's body which extend below the abdomen. Bed linen, towels, and other clothes used about the patient should be placed in a tub, washboiler, or other vessel containing sufficient disinfectant solution to cover them thoroughly and boiled in the solution before being washed at home or sent out to be washed. Chloride of lime solution (2 ounces of the powder to the gallon of water) or carbolic acid solution (6 tablespoonfuls of the 95 per cent acid to the gallon of water) may be used as the disinfectant. Water which has been used for bathing the patient should be disinfected, by adding ½ ounce of chloride of lime to each gallon of the water, before being thrown out. Spoons, dishes, glasses, etc., used by the patient should be placed in a disinfectant solution and boiled before being washed for further use. So far as is practicable, articles removed from the sick room, even after immersion in a disinfectant solution, should be kept away from the kitchen and dining room used for the preparation of foods for the well members of the household.

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(3) *Have all persons who have been in the patient's room disinfect their hands upon leaving the room.*—A basin of disinfectant solution should be kept at all times on a stand or chair next to the door, so that all persons leaving the room can conveniently soak their hands in the solution before going out. This should be required not only of those who have touched the patient, or the bedding of the patient, but of all who have come into the room, because the hands may receive infection from touching anything in the room. The attending physician, especially, should set a good example by disinfecting his hands thoroughly upon leaving the bedside. Those who have handled the patient, the bedding, or the bedpan, and so have been especially likely to get infection on their hands, should, before touching foods for themselves or others and before putting their fingers to their mouths for any purpose, disinfect their hands as follows:

(1) Soak in the disinfectant solution for several minutes.

(2) Scrub with soap and warm water.

(3) Dip again into the disinfectant solution or wash with alcohol (95 per cent).

Any one of the following may be used as a disinfectant solution for the hands:

(1) Chloride of lime, 1 tablespoonful to 1 quart of water.

(2) Carbolic acid (95 per cent pure), 6 tablespoonfuls to 1 gallon of water.

(3) Lysol, 3 tablespoonfuls to 1 gallon of water.

(4) Bichloride of mercury, 15 grains to the quart of water, or 1 part of the bichloride to about 1,000 parts of water.

(4) *Have the patient's room thoroughly screened to keep out flies and kill all flies which get into the room.*—All windows and doors should be screened. Mosquito netting will serve for temporary screening. All flies which get into the room should be either caught on sticky fly paper or in traps or killed with "swatters." Flies caught or killed should be burned.

(5) *Isolate the patient to a reasonable extent.*—Although one is not liable to get the disease by breathing the air of the room or house occupied by the patient, persons who go into the sick room may touch infected things and afterwards carry infection directly to their own mouths, or through touching foods, by shaking hands, and in other ways carry infection indirectly to the mouths of other persons.

It is better for the patient and for all other persons in the community for all unnecessary visitors to be kept out of the patient's room. As a rule, only those needed in the actual care of the patient should be permitted in the room. If visitors do enter the room, they should be required to exercise, under the supervision of the regular attendants, all due precautions while in and upon leaving the room. It is particularly inadvisable to permit children to go into the sick room.

(6) *Continue precautionary measures as long as the discharges from the person recovering or recovered from typhoid fever are infectious.*—Disinfection of the excreta and of all things liable to have become soiled with the excreta should be continued for at least two weeks after the person affected has recovered from all clinical manifestations of the disease, and, whenever practicable, until it has been determined by bacteriological examinations that the excreta are no longer infectious. Persons recovered from typhoid fever should be especially careful, for at least two months after recovery, about their toilet and about washing thoroughly their hands immediately after going to stool or to urinate.

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(7) *Disinfect the room and all articles in the room upon the termination of the case.*—The room should be fumigated with some gaseous disinfectant, such as formaldehyde or sulphur dioxide. Before fumigation the room should be made as nearly air-tight as possible and surface exposure of all things in the room, such as bureau draws, bedding, etc., secured as thoroughly as practicable. Formaldehyde may be generated conveniently by mixing formalin and permanganate of potassium in a bucket or tub. They should be used in the proportion of 2 pints of formalin to 1 pound of permanganate. One pint of formalin should be used for each 1,000 cubic feet of space and the gas left in the room for six hours. After fumigation of the room the floors, walls, and woodwork should be scrubbed with a disinfectant solution such as chloride of lime solution (strength 1 to 64) or bichloride of mercury solution (strength 1 to 500) and the room aired thoroughly and sunned as thoroughly as practicable. The bed clothes and other textile materials in the room should be soaked in a disinfectant solution and then boiled. The mattress should be burned, soaked in a disinfectant solution, or disinfected in a steam chamber. If the mattress has not been obviously soiled with the excreta, it may be rendered reasonably safe after having been exposed to the gaseous disinfectant by sponging its cover with a disinfectant solution and then keeping it out of doors thoroughly exposed to sun and air for about a week.

If the proper precautionary measures can not be thoroughly carried out in the home where there is a typhoid-fever patient, the patient should invariably be taken for treatment to a hospital or some other place where the precautionary measures can and will be carried out.

To follow the instructions given in and under the (above) seven captions is some trouble, but not as much as will be the caring for a second case in the home.

Where such measures are strictly carried out, the spread of infection from the typhoid-fever patient will be prevented; where they are neglected, the fever may become widespread and cause much needless suffering and loss of life.

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LIST OF PUBLIC HEALTH BULLETINS.

The following is a list of the Public Health Bulletins that have been issued:

*1. Report on Trichinæ and Trichinosis. By W. C. W. Glazier. 1881. 212 pages. 87 il. 1 map. Paper. Senate Executive Document No. 9, Forty-sixth Congress, third session. Out of print.

*2. Report on the Etiology and Prevention of Yellow Fever. By George M. Sternberg. 1890. 271 pages. 21 pl. 20 il. Cloth. Out of print.

*3. Mortality Statistics in the United States for the year ending December 31, 1897. From Annual Report Marine-Hospital Service, 1898. 24 pages. Paper. Out of print.

4. Yellow Fever: Its Nature, Diagnosis, Treatment, and Prophylaxis and Quarantine Regulations Relating Thereto. By officers of the Marine-Hospital Service. Reprint from Annual Report Marine-Hospital Service, 1898. 176 pages. 1 il. Paper.

*5. Shipment of Merchandise from a Town Infected with Yellow Fever. By H. R. Carter. 1899. 15 pages. Paper. Out of print.

†6. Report of Commission of Medical Officers Detailed by Authority of the President to Investigate the Cause of Yellow Fever. By Eugene Wasdin and H. D. Geddings. July, 1899. 98 pages. 26 charts. 2 il. Paper. Superintendent of Documents. 5 cents.

*7. The Bubonic Plague. By Walter Wyman. January, 1900. 50 pages. Paper. Out of print.

†8. Report of Commission Appointed by the Secretary of the Treasury for the Investigation of Plague in San Francisco. By Prof. Simon Flexner, Prof. F. G. Novy, and Prof. L. F. Barker. January 23, 1901. 23 pages. 1 map. Paper. Superintendent of Documents. 5 cents.

*9. Report Relating to the Origin and Prevalence of Leprosy in the United States. By a Commission of Medical Officers of the U. S. Marine-Hospital Service. 1902. 119 pages. 25 il. Paper. Senate Document No. 269, Fifty-seventh Congress, first session. Out of print.

*10. Plague Conference. Containing a copy of the address of the chairman, and resolutions passed by a conference called in accordance with requests from a number of State Boards of Health, and under authority of section 7, act of Congress approved July 1, 1902, to consider the plague situation. Reprint from P. H. R. No. 4, Vol. XVIII, January 23, 1903. 9 pages. And February 6, 1903. 41 pages. Paper. Out of print.

†11. Transactions of the First Annual Conference of State and Territorial Health Officers with the United States Public Health and Marine-Hospital Service. June, 1903. 120 pages. Cloth. Superintendent of Documents. 20 cents.

†12. Transactions of the Second Annual Conference of State and Territorial Health Officers with the United States Public Health and Marine-Hospital Service. June, 1904. 95 pages. Cloth. Superintendent of Documents. 20 cents.

†13. The Public Health and Marine-Hospital Service of the United States. A Brief History. Prepared for the Louisiana Purchase Exposition. December, 1904. 16 pages. Paper. Superintendent of Documents. 5 cents.

†14. Sanatorium for Consumptives, Fort Stanton, N. Mex. By P. M. Carrington. Reprint from Annual Report Public Health and Marine-Hospital Service, 1904. 19 pages. Paper. Superintendent of Documents. 5 cents.

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†15. Transactions of the Third Annual Conference of State and Territorial Health Officers with the United States Public Health and Marine-Hospital Service. May, 1905. 52 pages. Cloth. Superintendent of Documents. 30 cents.

16. How to prevent Yellow Fever—No Mosquitoes, No Yellow Fever. By Walter Wyman. July 31, 1905. 3 pages. Circular.

†17. Transactions of the Fourth Annual Conference of State and Territorial Health Officers with the United States Public Health and Marine-Hospital Service. May, 1906. 75 pages. Cloth. Superintendent of Documents. 35 cents.

†18. Transactions of the Fifth Annual Conference of State and Territorial Health Officers with the United States Public Health and Marine-Hospital Service. May, 1907. 47 pages. Cloth. Superintendent of Documents. 25 cents.

19. Trachoma, Its Character and Effects. By Taliaferro Clark and J. W. Scherescheweky. 1907. 34 pages. 6 il. Paper. (Second edition.)

*20. The Public Health and Marine-Hospital Service of the United States. A Brief History. Prepared for the Jamestown Ter-Centennial Exposition. 1907. 12 pages. Paper. Out of print.

†21. Transactions of the Sixth Annual Conference of State and Territorial Health Officers with the United States Public Health and Marine-Hospital Service. April, 1908. 79 pages. Cloth. Superintendent of Documents. 50 cents.

†22. The Present Pandemic of Plague. By J. M. Eager. 1908. 30 pages. Paper. Superintendent of Documents. 5 cents.

†23. Pellagra—A Precis. By C. H. Lavinder. July 24, 1908. 22 pages. 1 il. Paper. Superintendent of Documents. 5 cents.

24. The Marine-Hospital Sanatorium, Fort Stanton, N. Mex. Prepared for the International Congress on Tuberculosis, held in Washington, September, 1908. 32 il. 56 pages. Paper.

*25. Hookworm Disease. Reprint from Annual Report P. H. and M. H. S., 1908. 5 pages. Paper. Out of print.

†26. Studies upon Leprosy.

I. The present Status of the Leprosy Problem in Hawaii.

II. The Reaction of Lepers to Moro's "Percutaneous" Test.

III. A Note Upon the Possibility of the Mosquito Acting in the Transmission of Leprosy. By W. R. Brinckerhoff. 1908. Investigations made in accordance with the act of Congress approved March 3, 1905. 24 pages. Paper. Superintendent of Documents. 10 cents.

27. Studies upon Leprosy.

IV. Upon the Utility of the Examination of the Nose and the Nasal Secretions for the Detection of Incipient Cases of Leprosy. B. W. R. Brinckerhoff and W. L. Moore. 1909. Investigations made in accordance with the act of Congress approved March 3, 1905. 29 pages. Paper.

28. Studies upon Leprosy.

V. A Report upon the Treatment of Six Cases of Leprosy with Nastine (Deycke). By W. R. Brinckerhoff and J. T. Wayson, Honolulu, T. H.

VI. Leprosy in the United States of America in 1909. By W. R. Brinckerhoff. 1909. Investigations made in accordance with the act of Congress approved March 3, 1905. 25 pages. Paper.

†29. The Prevalence of Rabies in the United States. By J. W. Kerr and A. M. Stimson. 1909. 16 pages. Paper. Superintendent of Documents. 5 cents.

†30. The Rat and its Relation to the Public Health. By various authors. 1910. 254 pages. 60 figs. 6 pls. Paper. Superintendent of Documents. 50 cents.

1. Introduction. By Walter Wyman.
2. Natural History of the Rat. By D. E. Lantz.
3. Plague Infection in Rats. By G. W. McCoy.
4. Rat Leprosy. By W. R. Brinckerhoff.

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5. Bacterial Diseases of the Rat other than Plague. By D. H. Currie.
6. Organic Diseases of the Rat. By G. W. McCoy.
7. Ecto Parasites of the Rat. By N. Banks.
8. Intestinal Parasites of Rats and Mice in their Relation to Diseases of Man. By C. W. Stiles.
9. Rodents in Relation to the Transmission of Bubonic Plague. By Rupert Blue.
10. Rodent Extermination. Rats and Mice. By W. C. Rucker.
11. Natural Enemies of Rats. By D. E. Lantz.
12. Rat-Proofing as an Antiplague Measure. By R. H. Creel.
13. Inefficiency of Bacterial Viruses in the Extermination of Rats. By M. J. Rosenau.
14. Plague Eradication in Cities by Sectional Extermination of Rats and General Rat-Proofing. By Victor G. Heiser.
15. The Rat in Relation to Shipping. By W. C. Hobdy.
16. The Rat as an Economic Factor. By D. E. Lantz.
17. The Rat in Relation to International Sanitation. By J. W. Kerr.

†31. Transactions of the Seventh Annual Conference of State and Territorial Health Officers with the United States Public Health and Marine-Hospital Service. June, 1909. 86 pages. Cloth. Superintendent of Documents. 35 cents.

32. Hookworm Disease (or Ground-Itch Anemia), its Nature, Treatment, and Prevention. By Prof. C. W. Stiles. 1910. 40 pages. Paper. (Second edition.)

33. Studies upon Leprosy. 1910. 25 pages. Paper.
VII. A Statistical Study of an Endemic Focus of Leprosy. By W. R. Brinkerhoff and A. C. Reinecke.
VIII. A Palliative Treatment for Leprous Rhinitis. By J. T. Wayson and A. C. Reinecke.

34. Maritime Quarantine. By L. E. Cofer. 1910. 25 figs. 64 pages. Paper. Appendix: Disinfectants Authorized by United States Quarantine Regulations and the Proper Method of Generating and Using Same.

35. The Relation of Climate to the Treatment of Pulmonary Tuberculosis. By F. C. Smith. 1910. 17 pages. Paper. (Second edition.)

36. Tuberculosis: Its Nature and Prevention. By F. C. Smith. 1910. 12 pages. 1 plate. Paper. (Second edition.)

37. The Sanitary Privy: Its Purpose and Construction. By Prof. C. W. Stiles. 1910. 24 pages. 12 figs. Paper. (Second edition.)

38. General Observations on the Bionomics of the Rodent and Human Fleas. By M. B. Mitzmain. 1910. 34 pages. Paper.

39. Studies upon Leprosy. September, 1910. 50 pages. Paper.
IX. Mosquitoes in Relation to the Transmission of Leprosy.
X. Flies in Relation to the Transmission of Leprosy. By D. H. Currie.
XI. Heredity Versus Environment in Leprosy. By H. T. Hollmann.

†40. Transactions of the Eighth Annual Conference of State and Territorial Health Officers with the United States Public Health and Marine-Hospital Service. November, 1910. 101 pages. Paper. Superintendent of Documents. 10 cents.

41. Studies upon Leprosy. November, 1910. 36 pages. Paper.
XII. Notes on the Study of Histories of Lepers from the Standpoint of Transmission. By D. H. Currie.
XIII. A Contribution to the Study of Rat Leprosy. By D. H. Currie and H. T. Hollmann.

42. Disinfectants: Their Use and Application in the Prevention of Communicable Diseases. By T. B. McClintic. December, 1910. 46 pages. Paper. (Second edition.)

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43. Experimental Studies of Plague and a Plague-like Disease among Rodents. By George W. McCoy. April, 1911. 71 pages. 7 pls. Paper.
44. Acute Anterior Poliomyelitis (Infantile Paralysis). By Wade H. Frost. February, 1911. 52 pages. Paper. (Second edition.)
45. A Digest of the Laws and Regulations of the Various States Relating to the Reporting of Cases of Sickness. By J. W. Trask.
46. Transactions of the Ninth Annual Conference of State and Territorial Health Officers with the United States Public Health and Marine-Hospital Service. September, 1911.
†47. Studies upon Leprosy. By D. H. Currie, Moses T. Clegg, and H. T. Hollmann. September, 1911. Superintendent of Documents. 10 cents.
XIV. The Artificial Cultivation of the Bacillus of Leprosy.
XV. Attempts at Specific Therapy in Leprosy.
48. Pellagra: A Précis. (Revised edition.) By C. H. Lavinder. September, 1911. (Second edition.)
49. Ophthalmia Neonatorum. An Analysis of the Laws and Regulations Relating Thereto in Force in the United States. By J. W. Kerr. October, 1911.
†50. Studies upon Leprosy. October, 1911. Superintendent of Documents. 5 cents.
XVI. Immunity. By D. H. Currie and M. T. Clegg.
XVII. Further Observations in Rat Leprosy. By D. H. Currie and H. T. Hollmann.
XVIII. A Statistical Study of the Nasal Lesions in Leprosy. By H. T. Hollmann.
51. The Causation and Prevention of Typhoid Fever, with Special Reference to Conditions Observed in Yakima County, Wash. By L. L. Lumsden. November, 1911. 53 pages. 13 figs. 5 charts. 2 maps. Paper. (Second edition.)
52. Vaccination: An Analysis of the Laws and Regulations Relative Thereto in Force in the United States. By J. W. Kerr. January, 1912. 82 pages. Paper.
53. Studies of Plague and Tuberculosis among Rodents in California. By G. W. McCoy and C. W. Chapin.

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 835.

VETO MESSAGE RELATING TO ARMY APPROPRIATION BILL.

MESSAGE

FROM THE

PRESIDENT OF THE UNITED STATES,

RETURNING TO

THE HOUSE OF REPRESENTATIVES, WITHOUT APPROVAL, HOUSE BILL 18956, "AN ACT MAKING APPROPRIATION FOR THE SUPPORT OF THE ARMY FOR THE FISCAL YEAR ENDING JUNE 30, 1913, AND FOR OTHER PURPOSES."

JUNE 17, 1912.—Read, referred to the Committee on Military Affairs, and ordered to be printed.

To the House of Representatives:

I have carefully considered the important questions presented by the bill entitled "An act making appropriation for the support of the Army for the fiscal year ending June 30, 1913, and for other purposes," and I now return it to the House of Representatives, in which it originated, with my objections to its approval.

The bill provides in the usual form for the appropriation required for the support of the Army during the next fiscal year. If it contained no other provisions, it would receive my prompt approval. It includes, however, further legislation of a most important character.

In addition to the appropriation bill proper, there were enacted by the House of Representatives, in six appended sections and elsewhere in the bill, a body of legislation which would substantially reorganize and change the existing military establishment. Among other things, this legislation reduced the Army by five regiments of Cavalry; it changed the existing term of the soldiers' enlistment; it altered the amounts of pay and conditions of allowances made to officers and enlisted men; it consolidated the three great supply corps of the Army, and also merged The Adjutant General's and Inspector General's departments with the General Staff; it reduced not only the number of general officers of the Army, but also reduced very materially the total number of officers and changed the number and methods of detail of such officers to the various departments; and in

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other ways made changes which necessarily had a far-reaching effect upon the military policy of the Nation as well as upon the organization with which that policy must be carried out.

When this bill reached the Senate, that body, by a decisive vote, struck all of this new and affirmative legislation from the bill, giving as its reasons, in the language of the chairman of the Senate Committee on Military Affairs, the following:

> Mr. President, the sections of the Army bill, from and including section 2, which are known as the legislative sections of the bill, have been stricken out, as the committee does not believe that important and radical legislation of this kind should be included in an appropriation bill, but should be discussed on its own merits as an independent measure as soon as the proposed plan of reorganization is received from the War Department. * * *
>
> The subjects covered by these provisions directly affect the efficiency of the Army, and can not receive the careful consideration which their importance demands when included in the provisions of an appropriation bill. * * *
>
> The consensus of opinion of the military authorities is that it is inadvisable at this time to attempt a partial reorganization of the Army. The entire subject of reorganization has been under prolonged investigation by the General Staff Corps, which corps was created by law for the purpose, among other duties, of studying and advising upon such subjects. * * * Until fully matured by the military authorities of the War Department and by the Military Committees of the two Houses of Congress the time required for its full discussion should not be hastened by the urgency of an appropriation bill.

The bill then went to conference, and the House conferees have now succeeded in restoring to the bill a large portion of this affirmative legislation, and in addition thereto have succeeded in introducing into the bill two entirely new provisions which had not before received the attention of either House of Congress or of either of their military committees.

One of these provisions creates a commission to consist of five retired Army officers, who are named in the bill, instead of being chosen by the President or Secretary of War, and two members from each House of Congress, to be designated by the presiding officers of such Houses, respectively, to report upon the location and distribution of military posts which are required within the continental limits of the United States for the proper accommodation, instruction, and training of the mobile Army, and until such report is made, the Executive is expressly deprived of all power to authorize the commencement of new posts or to change in any manner the posts now in existence in the United States.

The second provision introduced by the conference provides that no officer after March 5, 1913, shall be permitted to serve as Chief of Staff unless he shall have served at least 10 years as a commissioned officer of the line of the Army in grades below that of brigadier general. This provision would render ineligible after that date for service in the most important position of the Army the present Chief of Staff and many other of the most efficient officers of the Army.

This brief summary of the history and character of the affirmative legislation attached to this bill serves to bring out the objections thereto. The dangers inherent in the practice of attaching substantive legislation to appropriation bills have been frequently pointed out by my predecessors. The only justification that has been offered for such practice is that it has been found a convenient method for facilitating the passage of measures which are deemed expedient by all the branches of government which participate in legislation.

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Thus, it has more than once occurred that useful items of Army legislation, generally of an urgent character, have been passed in this manner, when the desirability of the enactment was recognized and acquiesced in by the common consent of both the Executive and of Congress. But no condition of urgency is here disclosed, nor can it be claimed that there is any such reason for attaching the present legislation to this Army appropriation bill. The history of the measure flatly contradicts this assumption. The most important provisions insisted on by the House of Representatives in this bill have been inserted therein against the recommendation of the President, the Secretary of War, and the General Staff of the Army. They are earnestly opposed by those officers whose experience and knowledge as to matters of Army organization and administration are presumed to be that of experts. The primary purpose of the two provisions last inserted in conference is to limit the existing choice of the President as to his military adviser and to limit the power of his Secretary of War as to the distribution of the mobile Army. Taken as a whole, it would be hard to conceive of a clearer instance of an attempt to force upon the Executive legislation well known to be disapproved by him, and, by attaching such legislation to one of the great supply bills of the Government, to deprive the President of his constitutional power as to legislation.

There can be no constitutional defense to such a practice. On the contrary, such attempts have been firmly resisted by my predecessors. In 1879 President Hayes vetoed an Army appropriation bill because there had been added to it by Congress similar provisions of substantive law.

He said:

> It is clearly the constitutional duty of the President to exercise his discretion and judgment upon all bills presented to him without constraint or duress from any other branch of the Government. To say that a majority of either or both of the Houses of Congress may insist upon the approval of a bill under the penalty of stopping all of the operations of the Government for want of the necessary supplies is to deny to the Executive that share of the legislative power which is plainly conferred by the second section of the seventh article of the Constitution. It strikes from the Constitution the qualified negative of the President.

The legislation attached to the present Army appropriation bill seems to me to be clearly objectionable in the following respects:

First. The provision above mentioned, limiting the eligibility of officers to be Chief of Staff, narrows the choice of the President in selecting incumbents for the most important position of the Army. Had it been in operation in past years, it would have disqualified the majority of the most brilliant officers of our Army. It tends to put a premium upon mere routine service and to exclude from the highest post of the Army the men whose force, intelligence, and opportunities have brought them quickly to the front. It would tend to confine the choice for this principal staff position to men who have had the least staff experience.

If, in addition, this provision, as has been asserted in the debates of Congress, has been introduced for the purpose of affecting the future of individual officers now upon the Army list, it contains a vice frequently reprobated by Executive action in disapproving Army legislation.

Second. By reducing the number of the General Staff the bill, in my opinion, tends to cripple the most important corps of the Army—that

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corps which, though of comparatively recent organization, is performing invaluable work toward the creation of a consistent military policy for the Nation and the organization of an efficient and economical Army. If, as I believe to be the case, this bill would make necessary the reduction of the work of the War College, harm would be done to our military establishment which would be well-nigh incalculable.

Third. By the provisions of the bill which limit the period during which an officer may remain upon detached service or staff duty the organized personnel of many of the most important bureaus and corps of the War Department and military establishment will be disintegrated, and the work now proceeding under them will be seriously impeded. While these provisions aim at a wise purpose and one which my administration has sought to carry out by Executive action with especial thoroughness, the enactments of this bill are deemed too radical and drastic. By removing at once all of the officers of the Bureau of Insular Affairs, except its chief, they would seriously interfere with the work of that most important bureau in administering the affairs of our insular possessions. Again, they would, on January 1, 1913, relieve all of the officers now assigned to the Philippine Constabulary. Earnest protest has been received from the insular government of the Philippines to the effect that so prompt a relief of all of the officers who have had the especial training and experience necessary for these positions would be disastrous to the morale and efficiency of that important body, and would be a serious handicap to the preservation of law and order in the Philippine Islands.

Again, the provision would at once relieve all but one of the line officers now on duty in the work of constructing the Panama Canal, and, under a very probable construction of the law, it would also relieve the Engineer officers and other staff officers detailed to that work. The organization of the force of officers and men by whom the canal is now being constructed has earned the admiration of the entire Nation. Under this organization that work is fast approaching its completion. The drastic character of the provision can be best understood when it is considered that it might at once relieve from duty the general purchasing officer of the Isthmian Commission, by whom all of the complicated machinery for the locks and gates is being purchased; the officer who is building the Gatun Dam and the spillway; the line officer who, as chief engineer, is relocating the Panama Railroad; the officer in charge of the construction of the new breakwater at Colon; and the medical officer under whose inspection the sanitary work of the zone is being conducted. It would be practically impossible to replace these men or the special knowledge and skill which they have in their departments of the work. The entire organization of the great work in which they are almost indispensable agents would be disintegrated and impaired.

The fact that a single provision of the bill can cause such serious consequences offers further evidence of the unwisdom of a method which deprives legislation of its usual safeguards of scrutiny and discussion.

Fourth. The second section of the bill lengthens the term of enlistment from three to four years. This change has been opposed by the recommendations of the President, the Secretary of War, and the General Staff of the Army. It will tend to make difficult or im-

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possible the establishment of a proper reserve by which the Regular Army could, in time of emergency, be brought up to its full strength. In my opinion it is a step contrary to enlightened military policy.

Fifth. The provision appointing the commission above mentioned to report as to the policy of Army posts seeks to deprive the regularly constituted authorities of our military establishment of all voice in the formulation of one of the most important policies now confronting the Nation in the maintenance of its Regular Army. It devolves the leadership in that matter upon a number of officers now retired and who are no longer responsible in any way for the Army or its maintenance. The very fact that they are selected in the manner proposed by this bill, without the action of the President or the head of the War Department, tends inevitably to create a lack of cooperation between them and the War Department. I believe that the provision will obstruct rather than further the solution of a most important and difficult problem.

Sixth. It is urged that great savings in expenditures are effected by the bill. I have examined carefully its provisions and believe this contention to be unfounded. Thus an examination of the bill in comparison with the estimates shows that there will be a deficit in the pay of the Army alone of $2,262,937. I also find that the amount appropriated for the subsistence of the Army is $191,787 below the amount originally asked for in the estimates and over $900,000 below the amount which, owing to the subsequent rise in the cost of the ration and other causes, will actually be necessary. This simply means that to that extent the alleged economy is arrived at by a failure to appropriate over $3,000,000, which will become necessary to pay and support the Army before the end of the coming year.

Again, the appropriations for the Quartermaster's Department fall short of the estimates by $1,338,319. I find by inquiry that only a portion of this can be met by enforced economy. As to the remainder, the Quartermaster General must either fall back upon his supply of reserve stores or incur a deficiency.

The foregoing enumeration sufficiently sets out some of the grave objections to this bill and sufficiently indicates the reasons which make this method of legislation unwise and dangerous. The Army of the United States is far too vital an institution to the people of this country to be made the victim of hasty or imperfect theories of legislation. As was pointed out by the chairman of the Senate Military Committee in the passage quoted above, it is well known that the War College and the General Staff have been for many months engaged upon a comprehensive plan of Army reorganization. At the present time, therefore, it is especially inappropriate, in my opinion, to force upon the statute book legislation enacted without the usual deliberation and care. I can not conscientiously surrender the responsibility in shaping such laws with which I am vested under the Constitution.

I therefore return to your honorable body without my approval the said bill.

WM. H. TAFT.

THE WHITE HOUSE, *June 17, 1912.*

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H. R. 18956.

An Act making appropriation for the support of the Army for the fiscal year ending June thirtieth, ninteen hundred and thirteen, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and they are hereby, appropriated, out of any money in the Treasury not otherwise appropriated, for the support of the Army for the year ending June thirtieth, nineteen hundred and thirteen.

CONTINGENCIES OF THE ARMY: For all contingent expenses of the Army not otherwise provided for, and embracing all branches of the military service, including the office of the Chief of Staff, to be expended under the immediate orders of the Secretary of War, twenty-five thousand dollars.

OFFICE OF THE CHIEF OF STAFF.

ARMY WAR COLLEGE: For expenses of the Army War College, being for the purchase of the necessary stationery, typewriters and exchange of same, office, toilet, and desk furniture, textbooks, books of reference, scientific and professional papers and periodicals, printing and binding, maps, police utensils, employment of temporary, technical, or special services, and for all other absolutely necessary expenses, including twenty-five dollars per month additional to regular compensation to chief clerk of division for superintendence of the War College Building, nine thousand dollars.

CONTINGENCIES MILITARY INFORMATION SECTION, GENERAL STAFF CORPS: For contingent expenses of the military information section, General Staff Corps, including the purchase of law books, professional books of reference, professional and technical periodicals and newspapers, and of the military attachés at the United States embassies and legations abroad; and of the branch office of the military information section at Manila, to be expended under the direction of the Secretary of War, ten thousand dollars: *Provided,* That section thirty-six hundred and forty-eight, Revised Statutes, shall not apply to subscriptions for foreign and professional newspapers and periodicals to be paid for from this appropriation.

UNITED STATES SERVICE SCHOOLS: To provide means for the theoretical and practical instruction at the Staff College (including the Army School of the Line, Army Field Engineer School, and the Army Signal School) at Fort Leavenworth, Kansas, the Mounted Service School at Fort Riley, Kansas, and the School of Fire for Field Artillery at Fort Sill, Oklahoma, by the purchase of textbooks, books of reference, scientific and professional papers, the purchase of modern instruments and material for theoretical and practical instruction, and for all other absolutely necessary expenses, to be allotted in such proportions as may, in the opinion of the Secretary of War, be for the best interests of the military service, thirty thousand dollars.

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THE ADJUTANT GENERAL'S DEPARTMENT.

CONTINGENCIES, HEADQUARTERS OF MILITARY DEPARTMENTS: For contingent expenses at the headquarters of the several military divisions and departments, including the Staff Corps serving thereat, being for the purchase of the necessary articles of office, toilet, and desk furniture, binding, maps, technical books of reference, professional and technical newspapers and periodicals, and police utensils, to be allotted by the Secretary of War, and to be expended in the discretion of the several military division and department commanders, seven thousand five hundred dollars.

UNDER THE CHIEF OF COAST ARTILLERY.

COAST ARTILLERY SCHOOL, FORT MONROE, VIRGINIA: For incidental expenses of the school, including chemicals, stationery, hardware; cost of special instruction of officers detailed as instructors; extra-duty pay to soldiers necessarily employed for periods not less than ten days as artificers on work in addition to and not strictly in line with their military duties, such as carpenters, blacksmiths, draftsmen, printers, lithographers, photographers, engine drivers, telegraph operators, teamsters, wheelwrights, masons, machinists, painters, overseers, laborers; office furniture and fixtures, machinery, and unforeseen expenses, ten thousand dollars.

For purchase of engines, generators, motors, machines, measuring instruments, special apparatus and materials for the division of the enlisted specialists, seven thousand dollars.

For purchase of special apparatus and materials and for experimental purposes for the department of artillery, three thousand dollars.

For purchase of generating, measuring, and mine apparatus, and materials for use in instruction of artillery troops in their special duties in connection with the loading and planting of submarine mines, five thousand five hundred dollars.

For purchase and binding of professional books of recent date treating of military and scientific subjects for library and for use of school, two thousand five hundred dollars.

Provided, That section thirty-six hundred and forty-eight, Revised Statutes, shall not apply to subscriptions for foreign and professional newspapers and periodicals to be paid for from this appropriation.

OFFICE OF THE CHIEF SIGNAL OFFICER.

SIGNAL SERVICE OF THE ARMY: For expenses of the Signal Service of the Army, as follows: Purchase, equipment, and repair of field electric telegraphs, signal equipments and stores, binocular glasses, telescopes, heliostats, and other necessary instruments, including necessary meteorological instruments for use on target ranges; war balloons and airships, including their maintenance and repair; telephone apparatus (exclusive of exchange service) and maintenance of the same; electrical installations and maintenance at military posts; fire control and direction apparatus and material for field artillery; maintenance and repair of military telegraph lines and

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cables, including salaries of civilian employees, supplies, and general repairs, and other expenses connected with the duty of collecting and transmitting information for the Army by telegraph or otherwise, three hundred and seventy-five thousand dollars: *Provided, however,* That not more than one hundred thousand dollars of said amount shall be used for the purchase, maintenance, operation, and repair of airships and other aerial machines.

WASHINGTON-ALASKA MILITARY CABLE AND TELEGRAPH SYSTEM: For defraying the cost of such extension and betterments of the Washington-Alaska military cable and telegraph system as may be approved by the Secretary of War, to be available until the close of the fiscal year nineteen hundred and fourteen, from the receipts of the Washington-Alaska military cable and telegraph system that have been covered into the Treasury of the United States, the extent of such extensions and the cost thereof to be reported to Congress by the Secretary of War, fifty thousand dollars.

ANNUNCIATOR BUZZER SYSTEMS AT TARGET RANGES: For the installation of annunciator buzzer systems at such target ranges as the Secretary of War may determine, ten thousand dollars.

PAY OF OFFICERS OF THE LINE.

For pay of officers of the line, six million eight hundred and ninety-three thousand nine hundred and eight dollars.

For additional pay to officers for length of service, to be paid with their current monthly pay, one million five hundred and twenty-four thousand one hundred and twenty dollars: *Provided,* That hereafter in time of peace whenever any officer holding a permanent commission with rank below that of lieutenant colonel shall not have been actually present for at least two of the last preceding six years in that branch of the Army in which he shall hold said commission and with the organization, if any, to which he shall have been assigned by competent authority, such officer shall not be detached nor permitted to remain detached from said branch or from said organization; and all pay and allowances shall be forfeited by any superior officer for any period during which, by his order, or with his permission, or by reason of his failure or neglect to issue or cause to be issued the proper order or instructions at the proper time, any other officer shall be detached or permitted to remain detached in violation of any of the terms of this proviso: *Provided further,* That nothing in the foregoing proviso shall be held to apply in the case of any officer for such period as shall be actually necessary for him, after having been relieved from detached service, to join that branch in which he shall hold a permanent commission and the organization, if any, to which he shall be assigned by competent authority, nor shall it be held to apply in the case of any officer absent temporarily on courts-martial or military boards, or upon leaves of absence authorized by existing law: *And provided further,* That hereafter details to the Ordnance Department may continue to be made as authorized by existing law, and, in the discretion of the President, those details, or any of them, now existing to the Philippine Constabulary need not be terminated until the first day of January, nineteen hundred and thirteen.

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PAY OF ENLISTED MEN.

For pay of enlisted men of all grades, including recruits, fifteen million eight hundred and thirty-two thousand dollars: *Provided*, That any officer or enlisted man in active service, who shall be absent from duty on account of disease resulting from his own intemperate use of drugs, or alcoholic liquors, or other misconduct, shall not receive pay for the period of such absence from any part of the appropriation in this Act for the pay of officers or enlisted men, the time so absent and the cause thereof to be ascertained under such procedure and regulations as may be prescribed by the Secretary of War: *Provided further*, That in time of war or when war is imminent, and after the President shall, by proclamation, have called upon honorably discharged soldiers of the Regular Army to present themselves for reenlistment therein within a specified period, subject to such conditions as may be prescribed in said proclamation, any person who shall have been discharged honorably from said Army, with character reported as at least good, and who having been found physically qualified for the duties of a soldier, shall reenlist while not over forty-five years of age in the line of said Army or in the Signal Corps or Hospital Corps thereof within the period that shall be specified in said proclamation, shall receive on so reenlisting a bounty which shall be computed at the rate of eight dollars for each month for the first year of the period that shall have elapsed since his last discharge from the Regular Army and the date of his reenlistment therein under the terms of said proclamation; at the rate of six dollars per month for the second year of such period; at the rate of four dollars per month for the third year of such period; and at the rate of two dollars per month for any subsequent year of such period, but no bounty in excess of three hunded dollars shall be paid to any person under the terms of this Act.

For additional pay for length of service, one million five hundred and thirty-five thousand dollars.

CORPS OF ENGINEERS.

For pay of enlisted men, four hundred and seventy-seven thousand eight hundred and forty dollars.

Additional pay for length of service, sixty-five thousand dollars.

ORDNANCE DEPARTMENT.

For pay of enlisted men, two hundred and twenty-one thousand four hundred and thirty-six dollars.

Additional pay for length of service, one hundred and five thousand five hundred dollars.

QUARTERMASTER'S DEPARTMENT.

For pay of two hundred post quartermaster sergeants, at forty-five dollars per month each, one hundred and eight thousand dollars.

Additional pay for length of service, thirty-eight thousand dollars.

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SUBSISTENCE DEPARTMENT.

For pay of two hundred and seven post commissary sergeants, at forty-five dollars per month each, one hundred and eleven thousand seven hundred and eighty dollars.

Additional pay for length of service, forty-five thousand dollars.

SIGNAL CORPS.

For pay of forty-two master signal electricians, at nine hundred dollars each, thirty-seven thousand eight hundred dollars.

For pay of one hundred and thirty-two first-class sergeants, at five hundred and forty dollars each, seventy-one thousand two hundred and eighty dollars.

For pay of one hundred and forty-four sergeants, at thirty-six dollars per month each, sixty-two thousand two hundred and eight dollars.

For pay of twenty-four cooks, at thirty dollars per month each, eight thousand six hundred and forty dollars.

For pay of one hundred and fifty-six corporals, at twenty-four dollars per month each, forty-four thousand nine hundred and twenty-eight dollars.

For pay of five hundred and fifty-two first-class privates, at eighteen dollars per month each, one hundred and nineteen thousand two hundred and thirty-two dollars.

For pay of one hundred and sixty-eight privates, at fifteen dollars per month each, thirty thousand two hundred and forty dollars.

Additional pay to twelve sergeants, serving as mess sergeants, at six dollars per month each, eight hundred and sixty-four dollars.

Additional pay for length of service, fifty-six thousand dollars.

HOSPITAL CORPS.

For pay of enlisted men, eight hundred and fifty thousand dollars.

Additional pay for length of service, one hundred and sixty thousand dollars.

PAY TO CLERKS, MESSENGERS, AND LABORERS AT HEADQUARTERS OF DIVISIONS, DEPARTMENTS, POSTS COMMANDED BY GENERAL OFFICERS, AND OFFICE OF THE CHIEF OF STAFF.

One chief clerk, at the office of the Chief of Staff, two thousand dollars per annum.

Fourteen clerks, at one thousand eight hundred dollars each per annum.

Fourteen clerks, at one thousand six hundred dollars each per annum.

Thirty-five clerks, at one thousand four hundred dollars each per annum.

Sixty-eight clerks, at one thousand two hundred dollars each per annum.

Seventy clerks, at one thousand dollars each per annum.

One captain of the watch, at nine hundred dollars per annum.

Three watchmen, at seven hundred and twenty dollars each per annum.

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One gardener, at seven hundred and twenty dollars per annum.

One packer, at eight hundred and forty dollars per annum.

Two messengers, at eight hundred and forty dollars each per annum.

Sixty messengers, at seven hundred and twenty dollars each per annum.

One laborer, at six hundred and sixty dollars per annum.

Two laborers, at six hundred dollars each per annum.

One laborer, at four hundred and eighty dollars per annum.

Five charwomen, at two hundred and forty dollars each per annum.

In all, three hundred and three thousand two hundred and forty dollars.

And said clerks, messengers, and laborers shall be employed and assigned by the Secretary of War to the offices and positions in which they are to serve: *Provided*, That no clerk, messenger, or laborer at headquarters of divisions, departments, posts commanded by general officers, or office of the Chief of Staff shall be assigned to duty with any bureau in the War Department.

FOR PAY OF OFFICERS OF THE STAFF CORPS AND STAFF DEPARTMENTS.

ADJUTANT GENERAL'S DEPARTMENT: For pay of officers in the Adjutant General's Department, eighty-eight thousand five hundred dollars.

For additional pay to such officers for length of service, to be paid with their current monthly pay, twenty-two thousand dollars.

INSPECTOR GENERAL'S DEPARTMENT: For pay of officers in the Inspector General's Department, fifty-nine thousand dollars.

For additional pay to such officers for length of service, to be paid with their current monthly pay, sixteen thousand dollars.

THE CORPS OF ENGINEERS: For pay of officers in the Corps of Engineers, four hundred and sixty thousand three hundred dollars.

For additional pay to such officers for length of service, to be paid with their current monthly pay, one hundred and ten thousand dollars.

ORDNANCE DEPARTMENT: For pay of officers in the Ordnance Department, two hundred and twenty-eight thousand five hundred dollars.

For additional pay to such officers for length of service, to be paid with their current monthly pay, fifty thousand dollars.

QUARTERMASTER'S DEPARTMENT: For pay of officers in the Quartermaster's Department, three hundred and forty-eight thousand two hundred dollars.

For additional pay to such officers for length of service, to be paid with their current monthly pay, eighty-six thousand three hundred and forty dollars.

SUBSISTENCE DEPARTMENT: For pay of officers in the Subsistence Department, one hundred and twenty-three thousand eight hundred dollars: *Provided*, That so much of section twelve hundred and sixty-one of the Revised Statutes as pertains to additional pay for acting commissaries be, and the same is hereby, repealed.

For additional pay to such officers for length of service, to be paid with their current monthly pay, thirty-four thousand four hundred and eighty dollars.

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MEDICAL DEPARTMENT: For pay of officers in the Medical Department, one million five hundred and forty-seven thousand eight hundred dollars.

For additional pay to such officers for length of service, to be paid with their current monthly pay, one hundred and eighty-five thousand dollars.

PAY DEPARTMENT: For pay of officers in the Pay Department, one hundred and fifty-two thousand dollars.

For additional pay to such officers for length of service, to be paid with their current monthly pay, forty thousand two hundred and twenty dollars.

JUDGE ADVOCATE GENERAL'S DEPARTMENT: For pay of officers in the Judge Advocate General's Department, forty-five thousand five hundred dollars.

For additional pay to such officers for length of service, to be paid with their current monthly pay, eight thousand seven hundred dollars.

SIGNAL CORPS: For pay of the officers of the Signal Corps, one hundred and fourteen thousand two hundred dollars.

For additional pay to such officers for length of service, to be paid with their current monthly pay, twenty-seven thousand seven hundred and sixty dollars.

BUREAU OF INSULAR AFFAIRS: For pay of officers of the Bureau of Insular Affairs, thirteen thousand dollars.

For additional pay to such officers for length of service, to be paid with their current monthly pay, two thousand dollars.

RETIRED OFFICERS.

For pay of officers on the retired list and for officers who may be placed thereon during the current year, two million eight hundred thousand dollars.

For additional pay to such officers for length of service, to be paid with their current monthly pay, four hundred and sixty-five thousand dollars.

For increased pay to retired officers assigned to active duty, forty-six thousand five hundred and fifty dollars.

For additional pay to such officers for length of service, to be paid with their current monthly pay, eighteen thousand nine hundred and thirty dollars.

RETIRED ENLISTED MEN.

For pay of the enlisted men of the Army on the retired list, two million one hundred and fifty thousand dollars: *Provided*, That in computing length of service for retirement credit for double time for foreign service shall not be given to those who hereafter enlist: *And provided further*, That nothing in this provision shall be so construed as to forfeit credit for double time already accrued.

MISCELLANEOUS.

For pay of seventy-five hospital matrons, nine thousand dollars.

For pay of one Superintendent Nurse Corps, one thousand eight hundred dollars: *Provided*, That the superintendent shall receive

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such allowances of quarters, subsistence, and medical care during illness as may be prescribed in regulations by the Secretary of War.

For one hundred and twenty-five nurses (female), eighty-eight thousand dollars.

For pay of forty-two veterinarians, at one thousand seven hundred dollars each, seventy-one thousand four hundred dollars.

For additional pay to such veterinarians for length of service, to be paid with their current monthly pay, thirteen thousand two hundred and forty dollars.

For pay of thirty dental surgeons, at two thousand dollars each, sixty thousand dollars.

For additional pay to dental surgeons for length of service, to be paid with their current monthly pay, twelve thousand dollars.

For pay of thirty acting dental surgeons, at one thousand eight hundred dollars per annum, fifty-four thousand dollars.

For pay of contract surgeons, thirteen thousand eight hundred dollars.

For pay of Army paymasters' clerks, one hundred and fifty-six thousand two hundred and fifty dollars.

For pay of fifteen Army paymasters' clerks, retired, twenty-four thousand seven hundred and fifty dollars and forty-eight cents.

For pay of paymasters' messengers, nineteen thousand dollars.

For traveling expenses of Army paymasters' clerks and expert accountant of the Inspector General's Department, nineteen thousand five hundred dollars: *Provided*, That hereafter Army paymasters' clerks and the expert accountant, Inspector General's Department, shall receive mileage at the same rates and under the same conditions as is provided by law for officers of the Army: *Provided further*, That hereafter the age limit for the retirement of Army paymasters' clerks shall be the same as the age limit for the retirement of commissioned officers of the Army.

For expenses of courts-martial, courts of inquiry, military commissions, and compensation of reporters and witnesses attending the same, thirty-five thousand dollars: *Provided*, That hereafter enlisted men may be detailed to serve as stenographic reporters for general courts-martial, courts of inquiry, military commissions, and retiring boards, and while so serving shall receive extra pay at the rate of not exceeding five cents for each one hundred words taken in shorthand and transcribed, such extra pay to be met from the annual appropriation for expenses of courts-martial, and so forth.

For additional pay to officer in charge of public buildings and grounds at Washington, District of Columbia, one thousand dollars.

For commutation of quarters to commissioned officers, dental surgeons, and veterinarians on duty without troops at stations where there are no public quarters, four hundred and seventy thousand dollars.

For travel allowance to enlisted men on discharge, eight hundred thousand dollars: *Provided*, That hereafter when an enlisted man is discharged from the service, except by way of punishment for an offense, he shall be entitled to transportation in kind and subsistence from the place of his discharge to the place of his enlistment, or to such other place within the continental limits of the United States as he may select, to which the distance is no greater than from the place of discharge to place of enlistment; but if the distance be greater he

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may be furnished with transportation in kind and subsistence for a distance equal to that from place of discharge to place of enlistment, or, in lieu of such transportation and subsistence, he shall, if he so elects, receive two cents a mile, except for sea travel, from the place of his discharge to the place of his enlistment.

For clothing not drawn due to enlisted men on discharge, six hundred thousand dollars.

For interest on soldiers' deposits, one hundred and thirty thousand dollars, and so much as may be necessary to pay back such deposits.

For pay of translator and librarian of the military information section, General Staff Corps, one thousand eight hundred dollars.

For pay of expert accountant for the Inspector General's Department, two thousand five hundred dollars.

For extra pay to enlisted men employed on extra duty for periods of not less than ten days in the offices of district artillery engineers, and district ordnance officers, and as switchboard operators, at seacoast fortifications, ten thousand nine hundred and fifty-two dollars and fifty-five cents.

For extra pay to enlisted men employed on extra duty as switchboard operators at each interior post of the Army, eleven thousand three hundred and sixty-nine dollars and seventy-five cents.

For extra pay to enlisted men of the line of the Army and to enlisted men of the Signal Corps employed in the Territory of Alaska on the Alaskan cable and telegraph system, for periods of not less than ten days, at the rate of thirty-five cents per day, thirty-two thousand dollars.

For mileage to officers, dental surgeons, veterinarians, and contract surgeons, when authorized by law, five hundred thousand dollars.

For additional ten per centum increase on pay of officers on foreign service, two hundred and sixty-six thousand dollars.

For additional twenty per centum increase on pay of enlisted men on foreign service, seven hundred and fifty thousand dollars: *Provided*, That hereafter the laws allowing increase of pay to officers and enlisted men for foreign service shall not apply to service in the Canal Zone, Panama, or Hawaii or Porto Rico.

For pay of one computer for Artillery Board, two thousand five hundred dollars.

For payment of exchange by special disbursing agents of the Pay Department serving in foreign countries, and when specially authorized by the Secretary of War by the special disbursing agents of the Pay Department serving in Alaska, six hundred dollars.

For subsistence, mileage, and commutation of quarters to officers of the National Guard attending service and garrison schools, twenty-one thousand five hundred dollars.

For three months' additional pay to enlisted men reenlisting within the period of three months from date of discharge from first enlistment, one hundred and fifty thousand dollars.

For six months' additional pay to beneficiaries of officers and enlisted men who die while in active service from wounds or disease not the result of their own misconduct, sixty thousand dollars.

For additional pay to officers below the grade of major required to be mounted and who furnish their own mounts, one hundred and eighty thousand dollars,

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For amount required to make monthly payment to Jennie Carroll, widow of James Carroll, late major and surgeon, United States Army, as per Act of Congress approved May twenty-third, nineteen hundred and eight, one thousand five hundred dollars.

For amount required to make monthly payment to Mabel H. Lazear, widow of Jesse W. Lazear, late acting assistant surgeon, United States Army, as per Act of Congress approved May twenty-third, nineteen hundred and eight, one thousand five hundred dollars.

For amount required to make monthly payments of one hundred dollars to John R. Kissinger, late of Company D, One hundred and fifty-seventh Indiana Infantry Volunteers, also late of the Hospital Corps, United States Army, one thousand two hundred dollars.

For Porto Rico Regiment of Infantry, composed of two battalions of four companies each:

Pay of officers, sixty-five thousand seven hundred dollars.

For additional pay for length of service, ten thousand dollars.

Pay of enlisted men, one hundred and thirty-eight thousand nine hundred and sixty dollars.

Additional pay for length of service, thirty-five thousand dollars.

PHILIPPINE SCOUTS.

For pay of officers: For fifty-two captains, one hundred and twenty-four thousand eight hundred dollars.

For pay of sixty-four first lieutenants, one hundred and twenty-eight thousand dollars.

For pay of sixty-four second lieutenants, one hundred and eight thousand eight hundred dollars.

For pay of twelve majors, in addition to pay as captain, six hundred dollars each, seven thousand two hundred dollars.

Additional pay for length of service, eighty-nine thousand eight hundred and ten dollars.

For pay of enlisted men, five hundred and eighty-five thousand four hundred and eighty-two dollars and forty cents.

For additional pay for length of service, sixty-five thousand dollars.

All the money hereinbefore appropriated for pay of the Army and miscellaneous, except the appropriation for mileage of officers and contract surgeons when authorized by law, shall be disbursed and accounted for by officers of the Pay Department as pay of the Army, and for that purpose shall constitute one fund: *Provided*, That section thirty-six hundred and twenty, Revised Statutes, as amended by the Act of Congress approved February twenty-seventh, eighteen hundred and seventy-seven, shall not be construed as precluding Army paymasters from drawing checks in favor of the person or institution designated by indorsement made on his monthly pay account by any officer of the Army, if the pay account has been deposited for payment on maturity in conformity with such regulations as the Secretary of War may prescribe: *Provided further*, That payment by the United States of a check on the indorsement of the indorsee specified on the pay account shall be a full acquittance for the amount due on the pay account.

ENCAMPMENT AND MANEUVERS, ORGANIZED MILITIA: For paying the expenses of the Organized Militia of any State, Territory, or of the District of Columbia, which may be authorized by the Secretary

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of War to participate in such encampments as may be established for the field instruction of the troops of the Regular Army, as provided by sections fifteen and twenty-one of the Act of January twenty-first, nineteen hundred and three, entitled "An Act to promote the efficiency of the militia, and for other purposes," to be immediately available and to remain available until the end of the fiscal year nineteen hundred and fourteen, one million three hundred and fifty thousand dollars.

EQUIPMENT OF COAST ARTILLERY, ARMORIES, ORGANIZED MILITIA: There is hereby made available, and the same shall remain available until the end of the fiscal year nineteen hundred and thirteen, the unexpended balances of any appropriations heretofore made for dummy guns and mortars; mounts for dummy guns and mortars; dummy ammunition; loading appliances; range and position finding equipment; aiming and laying devices; subcaliber tubes and mountings therefor; labor and material necessary to install dummy guns and mortars; and to provide appliances and devices for instructional purposes in armory buildings provided by States for Coast Artillery companies of the Organized Militia.

SUBSISTENCE DEPARTMENT.

Purchase of subsistence supplies: For issue, as rations to troops, civil employees when entitled thereto, hospital matrons, nurses, applicants for enlistment while held under observation, general prisoners of war (including Indians held by the Army as prisoners, but for whose subsistence appropriation is not otherwise made), Indians employed with the Army, without pay, as guides and scouts, and military convicts at posts; for the subsistence of the masters, officers, crews, and employees of the vessels of the Army transport service; hot coffee for troops traveling when supplied with cooked or travel rations; meals for recruiting parties, and applicants for enlistment while held under observation; authorized issues of soap, candles, matches, toilet paper, salt, vinegar, flour, and towels; authorized issues of toilet articles, barbers', laundry, and tailors' materials, for use of military convicts confined at military posts without pay or allowances, and applicants for enlistment while held under observation; for issues of toilet kits to recruits upon their first enlistment; ice for issue to organizations of enlisted men at such places as the Secretary of War may determine; for sales to officers and enlisted men of the Army; coffee roasters and cooking apparatus in the field, and when traveling (except on transports), bake ovens and apparatus pertaining thereto; scales, weights, measures, utensils, tools, stationery, blank books and forms, office furniture, commissary chests and outfits, and field desks of commissaries: *Provided*, That the sum of twelve thousand dollars is authorized to be expended for supplying meals or furnishing commutation of rations to enlisted men of the Regular Army and the Organized Militia who may be competitors in the national rifle match: *And provided further*, That no competitor shall be entitled to commutation of rations in excess of one dollar and fifty cents per day, and when meals are furnished no greater expense than that sum per man per day for the period the contest is in progress shall be incurred. For payments: Of commutation of rations to the cadets at the United States Military Academy in

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lieu of the regular established ration, at the rate of thirty cents per ration; of the regulation allowances of commutation in lieu of rations to enlisted men on furlough, enlisted men and male and female nurses when stationed at places where rations in kind can not be economically issued, and when traveling on detached duty where it is impracticable to carry rations of any kind, enlisted men selected to contest for places or prizes in department and Army rifle competitions while traveling to and from places of contest, male and female nurses on leaves of absence, applicants for enlistment and military convicts while traveling under orders; of commutation of rations in lieu of the regular established ration for members of the Nurse Corps (female) while on duty in hospital, at forty cents per ration, and for enlisted men, applicants for enlistment while held under observation, and military convicts sick therein, at the rate of thirty cents per ration (except that at the general hospital at Fort Bayard, New Mexico, fifty cents per ration and at other general hospitals forty cents per ration are authorized for enlisted patients therein), to be paid to the surgeon in charge; of compensation of civilians employed in the Subsistence Department; of extra pay to enlisted men employed on extra duty in the Subsistence Department for periods of not less than ten days, at rates fixed by law; of extra-duty pay at rates to be fixed by the Secretary of War for mess stewards and cooks at recruit depots, who are to be graduates of the schools for bakers and cooks, and instructor cooks at the schools for bakers and cooks; for printing, advertising, commercial newspapers, and use of telephones; for temporary buildings, cellars, and other means of protecting subsistence supplies (when not provided by the Quartermaster's Department); for providing prizes to be established by the Secretary of War for enlisted men of the Army who graduate from the Army schools for bakers and cooks, the total amount of such prizes at the various schools not to exceed nine hundred dollars per annum; for other necessary expenses incident to the purchase, testing, care, preservation, issue, sale, and accounting for subsistence supplies for the Army; in all, eight million seven hundred and ninety-seven thousand and eighty dollars and forty-two cents, to be expended under the direction of the Secretary of War, and accounted for as "Subsistence of the Army," and for that purpose to constitute one fund: *Provided*, That hereafter the provisions of section five of the Act of June thirtieth, nineteen hundred and six (Thirty-fourth Statutes, page seven hundred and sixty-three), shall not be construed to apply to the Subsistence Department.

QUARTERMASTER'S DEPARTMENT.

REGULAR SUPPLIES, QUARTERMASTER'S DEPARTMENT: Regular supplies of the Quartermaster's Department, including their care and protection, consisting of stoves and heating apparatus required for heating offices, hospitals, barracks and quarters, and recruiting stations, and United States military prison; also ranges and stoves, and appliances for cooking and serving food at posts, and repair and maintenance of such heating and cooking appliances; for furnishing heat and light for the authorized allowance of quarters for officers and enlisted men, for contract surgeons and contract dental surgeons when stationed at, and occupying public quarters at, military posts, for

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officers of the National Guard attending service and garrison schools, and for recruits, guards, hospitals, storehouses, offices, the buildings erected at private cost in the operation of the Act approved May thirty-first, nineteen hundred and two; for sale to officers, and including also fuel and engine supplies required in the operation of modern batteries at established posts; for post bakeries; for ice machines and their maintenance where required for the health and comfort of the troops and for cold storage; for the construction, operation, and maintenance of laundries at military posts in the United States and its island possessions; for extra-duty pay of enlisted men and hire of employees; for the necessary furniture, textbooks, paper, and equipment for the post schools and libraries; for the tableware and mess furniture for kitchens and mess halls, each and all for the enlisted men, including recruits; of forage in kind for the horses, mules, and oxen of the Quartermaster's Department at the several posts and stations and with the armies in the field, and for the horses of the several regiments of Cavalry, the batteries of Artillery, and such companies of Infantry and Scouts as may be mounted; for remounts and for the authorized number of officers' horses, including bedding for the animals; for seeds and implements required for the raising of forage at remount depots, and for labor and expenses incident thereto; of straw for soldiers' bedding, and of stationery, typewriters and exchange of same, including blank books for the Quartermaster's Department, certificates for discharged soldiers, blank forms for the Pay and Quartermaster's Departments, and for printing department orders and reports: *Provided*, That no part of the appropriations for the Quartermaster's Department shall be expended on printing unless the same shall be done at the Government Printing Office, or by contract after due notice and competition, except in such cases as the emergency will not admit of the giving notice of competition, and in cases where it is impracticable to have the necessary printing done by contract the same may be done, with the approval of the Secretary of War, by the purchase of material and hire of the necessary labor for the purpose. For the fiscal year ending June thirtieth, nineteen hundred and thirteen, whenever the ice machines, steam laundries, and electric plants shall not come in competition with private enterprise for sale to the public, and in the opinion of the Secretary of War it becomes necessary to the economical use and administration of such ice machines, steam laundries, and electric plants as have been or may hereafter be established in pursuance of law, surplus ice may be disposed of, laundry work may be done for other branches of the Government, and surplus electric light and power may be sold on such terms and in accordance with such regulations as may be prescribed by the Secretary of War: *Provided*, That the funds received from such sales and in payment for such laundry work shall be used to defray the cost of operation of said ice, laundry, and electric plants; and the sales and expenditures herein provided for shall be accounted for in accordance with the methods prescribed by law, and any sums remaining, after such cost of maintenance and operation have been defrayed, shall be deposited in the Treasury to the credit of the appropriation from which the cost of operation of such plant is paid, seven million five hundred and fifty-seven thousand seven hundred and seventy-three dollars.

For the purchase of the necessary instruments, office furniture, stationery, and other authorized articles required for the equipment and

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use of the officers' schools at the several military posts, six thousand dollars.

INCIDENTAL EXPENSES, QUARTERMASTER'S DEPARTMENT: Postage; cost of telegrams on official business received and sent by officers of the Army; extra pay to soldiers employed on extra duty, under the direction of the Quartermaster's Department, in the erection of barracks, quarters, and storehouses, in the construction of roads and other constant labor for periods of not less than ten days, and as clerks for post quartermasters at military posts, and for prison overseers at posts designated by the War Department for the confinement of general prisoners, and for the United States military prison guard; for expenses of expresses to and from frontier posts and armies in the field, of escorts to paymasters and other disbursing officers and to trains where military escorts can not be furnished; authorized office furniture, hire of laborers in the Quartermaster's Department, including the care of officers' mounts when the same are furnished by the Government, and the hire of interpreters, spies, or guides for the Army; compensation of clerks and other employees to the officers of the Quartermaster's Department, and clerks, foremen, watchmen, and organist for the United States military prison, and incidental expenses of recruiting; for the apprehension, securing, and delivering of deserters, including escaped military prisoners, and the expenses incident to their pursuit, and no greater sum than fifty dollars for each deserter or escaped military prisoner shall, in the discretion of the Secretary of War, be paid to any civil officer or citizen for such services and expenses; for a donation of five dollars to each dishonorably discharged prisoner upon his release from confinement, under court-martial sentence, involving dishonorable discharge; for the following expenditures required for the several regiments of Cavalry, the batteries of Light Artillery, and such companies of Infantry and scouts as may be mounted, the authorized number of officers' horses, and for the trains, to wit: Hire of veterinary surgeons, purchase of medicines for horses and mules, picket ropes, blacksmith's tools and materials, horseshoes and blacksmith's tools for the Cavalry service, and for the shoeing of horses and mules, and such additional expenditures as are necessary and authorized by law in the movements and operations of the Army, and at military posts, and not expressly assigned to any other department, one million eight hundred and eighty-six thousand dollars.

HORSES FOR CAVALRY, ARTILLERY, ENGINEERS, AND SO FORTH: For the purchase of horses of ages, sex, and size as may be prescribed by the Secretary of War, for remounts, for officers entitled to public mounts, for the Cavalry, Artillery, Signal Corps, and Engineers, the United States Military Academy, service schools, and staff colleges, and for the Indian scouts, and for such Infantry and members of the Hospital Corps in field campaigns as may be required to be mounted, and the expenses incident thereto, and for the hire of employees: *Provided*, That the number of horses purchased under this appropriation, added to the number now on hand, shall be limited to the actual needs of the mounted service, including reasonable provisions for remounts, and, unless otherwise ordered by the Secretary of War, no part of this appropriation shall be paid out for horses not purchased by contract after competition duly invited by the Quartermaster's Department and an inspection under the direction and authority of

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the Secretary of War. When practicable, horses shall be purchased in open market at all military posts or stations, when needed, at a maximum price to be fixed by the Secretary of War: *Provided further*, That no part of this appropriation shall be expended for the purchase of any horses below the standard set by Army Regulations for Cavalry and Artillery horses, except when purchased as remounts, or for instruction of cadets at the United States Military Academy: *Provided further*, That the accounting officers of the Treasury are hereby authorized and directed to remove any suspensions or disallowances in the accounts of quartermasters for the fiscal years nineteen hundred and ten, nineteen hundred and eleven, and nineteen hundred and twelve, for the purchase, care, and foraging of horses, because of age, sex, or size, and for the purchase of seeds, machinery, and for labor and other expenditures in connection with the raising of forage at remount depots, from appropriations of the Quartermaster's Department, three hundred thousand dollars.

BARRACKS AND QUARTERS: For barracks, quarters, stables, storehouses, magazines, administration and office buildings, sheds, shops, and other buildings necessary for the shelter of troops, public animals, and stores, and for administration purposes, except those pertaining to the Seacoast Artillery; for repairing public buildings at military posts; for extra-duty pay to enlisted men and hire of employees; for rental of the authorized allowance of quarters for officers on duty with the troops at posts and stations where no public quarters are available; of barracks or authorized allowance of quarters for noncommissioned officers and enlisted men on duty where public quarters are not available; of grounds for cantonments, camp sites, and other military purposes, and of buildings or portions of buildings for occupation by troops, for use as stables, storehouses, and offices, and for other military purposes; for the hire of recruiting stations and lodgings for recruits; for such furniture for the public rooms of officers' messes and for officers' quarters at military posts, as may be approved by the Secretary of War; for wall lockers in permanent barracks and refrigerators in barracks and quarters; for screen doors, window screens, storm doors and sash, and window shades for barracks, offices, and quarters, and for flooring and framing for tents: *Provided*, That no part of the moneys so appropriated shall be paid for commutation of fuel or quarters to officers or enlisted men: *Provided further*, That the number of and total sum paid for civilian employees in the Quartermaster General's Department, including those paid from the fund appropriated for regular supplies, incidental expenses, barracks and quarters, Army transportation, clothing, camp and garrison equipage, shall be limited to the actual requirements of the service, and that no employee paid therefrom shall receive a salary of more than one hundred and fifty dollars per month, except upon the approval of the Secretary of War: *Provided further*, That of the amount herein appropriated the sum of twenty-five thousand dollars shall be immediately available for the construction of barracks and quarters: *Provided further*, That the Secretary of War be, and he is hereby, authorized, in his discretion, to sell and convey to the State of Texas, on or before July first, nineteen hundred and thirteen, for the purposes of a State tuberculosis sanitarium, the military reservation of Fort Clark, Texas, or such portion of it as in the judgment of the Secretary of War may be sold, at a price to be fixed by a board of three apprais-

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ers, one of whom shall be designated by the Secretary of War, one by the governor of Texas, and the third to be agreed upon by the two appraisers first designated, one million seven hundred thousand dollars: *Provided*, That a commission to consist of Lieutenant Generals Samuel B. M. Young and Arthur MacArthur, retired, and Major Generals George M. Randall, Jesse M. Lee and Charles F. Humphrey, retired, and two members of the Committee on Military Affairs of the Senate who shall be designated by the President of the Senate, and two members of the Committee on Military Affairs of the House of Representatives who shall be designated by the Speaker of the House of Representatives, is hereby created to consider and report to the Senate and House of Representatives on or before the first day of January, nineteen hundred and thirteen, upon the location and distribution of military posts which are required within the continental limits of the United States for the proper accommodation, instruction and training of the Army, but not including Coast Artillery posts and troops. The Commission shall make recommendations, giving reasons in detail therefor, as to which of the existing posts shall be retained or abandoned, and of those recommended to be retained which, if any, shall be enlarged, and to what extent. In all of its recommendations the Commission shall have due regard for the proper distribution of the different arms of the service as determined by strategic, sanitary, and economical considerations, and by the relations which should be maintained by the Regular Army with the Organized Militia and the public at large, and taking into consideration the number of troops which may be stationed in Hawaii and the Canal Zone. The Commission shall meet upon the call of the chairman, who shall be the senior lieutenant general on the Commission, at the earliest practicable date, and proceed to the execution of the work of the Commission in such manner as the Commission may determine. Prior to the rendition of the report hereinbefore required it shall be the duty of the Secretary of War to authorize the commencement of no new posts within the continental limits of the United States and to preserve and maintain in the same manner as at the time of the passage of this Act all posts now in existence which are liable to enlargement or retention, according to the terms of this Act. Actual and necessary expenses of the Commission shall be paid out of the contingent funds of the Senate and House of Representatives, respectively and equally.

MILITARY POST EXCHANGE: For continuing the construction, equipment, and maintenance of suitable buildings at military posts and stations for the conduct of the post exchange, school, library, reading, lunch, amusement rooms, and gymnasium, including repairs to buildings erected at private cost in the operation of the Act approved May thirty-first, nineteen hundred and two, to be expended in the discretion and under the direction of the Secretary of War, forty thousand dollars.

TRANSPORTATION OF THE ARMY AND ITS SUPPLIES: For transportation of the Army and its supplies, including transportation of the troops when moving either by land or water, and of their baggage, including the cost of packing and crating; for transportation of recruits and recruiting parties; of applicants for enlistment between recruiting stations and recruiting depots; of persons on their discharge from the United States military prison to their homes (or elsewhere as they may elect), provided the cost in each case shall not

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be greater than to the place of last enlistment; of supplies furnished to the militia for the permanent equipment thereof; of the necessary agents and other employees; of clothing and equipage and other quartermaster's stores from Army depots or places of purchase or delivery to the several posts and Army depots and from those depots to the troops in the field; of horse equipments and of subsistence stores from places of purchase and from the places of delivery under contract to such places as the circumstances of the service may require them to be sent; of ordnance and ordnance stores, and small arms from the foundries and armories to the arsenals, fortifications, frontier posts, and Army depots; for payment of wharfage tolls, and ferriage; for transportation of funds of the Army; for the hire of employees; for the payment of Army transportation lawfully due such land-grant railroads as have not received aid in Government bonds (to be adjusted in accordance with the decisions of the Supreme Court in cases decided under such land-grant Acts), but in no case shall more than fifty per centum of full amount of service be paid: *Provided*, That such compensation shall be computed upon the basis of the tariff or lower special rates for like transportation performed for the public at large, and shall be accepted as in full for all demands for such service: *Provided further*, That in expending the money appropriated by this Act a railroad company which has not received aid in bonds of the United States, and which obtained a grant of public land to aid in the construction of its railroad on condition that such railroad should be a post route and military road, subject to the use of the United States for postal, military, naval, and other Government services, and also subject to such regulations as Congress may impose restricting the charge for such Government transportation, having claims against the United States for transportation of troops and munitions of war and military supplies and property over such aided railroads, shall be paid out of the moneys appropriated by the foregoing provision only on the basis of such rate for the transportation of such troops and munitions of war and military supplies and property as the Secretary of War shall deem just and reasonable under the foregoing provision, such rate not to exceed fifty per centum of the compensation for such Government transportation as shall at that time be charged to and paid by private parties to any such company for like and similar transportation; and the amount so fixed to be paid shall be accepted as in full for all demands for such service; for the purchase and hire of draft and pack animals in such numbers as are actually required for the service, including reasonable provision for replacing unserviceable animals; for the purchase, hire, operation, maintenance, and repair of such harness, wagons, carts, drays, and other vehicles as are required for the transportation of troops and supplies, and for official, military, and garrison purposes; for drayage and cartage at the several depots; for the hire of teamsters and other employees; and for extra-duty pay of enlisted men driving teams, repairing means of transportation, and employed as train masters; for the purchase and repair of ships, boats, and other vessels required for the transportation of troops and supplies and for official, military, and garrison purposes; for expenses of sailing public transports and other vessels on the various rivers, the Gulf of Mexico, and the Atlantic and Pacific Oceans, ten million

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eight hundred and fifty thousand dollars, of which amount sixty thousand dollars shall be immediately available.

ROADS, WALKS, WHARVES, AND DRAINAGE: For the construction and repairs by the Quartermaster's Department of roads, walks, and wharves; for payment of extra-duty pay to enlisted men employed in opening roads and in building wharves; for the pay of employees; for the disposal of drainage; for dredging channels and for care and improvement of grounds at military posts and stations, eight hundred and forty-five thousand six hundred dollars: *Provided*, That seventy thousand dollars of the sum herein appropriated may be used for the purchase of the tract of land now being leased from Mr. George W. Brackenridge for target and drill purposes, consisting of three hundred and ten acres, more or less, lying just north of the newly purchased ground of the military reservation of Fort Sam Houston, Texas, and extending to the county road recently completed around the reservation: *Provided further*, That twenty-two thousand dollars of the amount herein appropriated may be expended to macadamize the roadway upon the Government property between the United States Government experimental farm and the Arlington Nationl Cemetery, in the county of Alexandria, Virginia: *And provided further*, That three thousand six hundred dollars of the sum herein appropriated may be used for completing the macadamizing of the road between the city of Vancouver and the barracks at Vancouver Military Post.

WATER AND SEWERS AT MILITARY POSTS: For procuring and introducing water to buildings and premises at such military posts and stations as from their situation require it to be brought from a distance; for the installation and extension of plumbing within buildings where the same is not specifically provided for in other appropriations; for the purchase and repair of fire apparatus, including fire-alarm systems; for the disposal of sewage; for repairs to water and sewer systems and plumbing within buildings; and for extra-duty pay of enlisted men and hire of employees, one million seven hundred and two thousand five hundred and ninety-five dollars: *Provided*, That not exceeding one thousand dollars of the sum herein appropriated, together with the unexpended balance, which is hereby reappropriated, of the appropriation in the Army appropriation Act approved March third, nineteen hundred and eleven, for the improvement of the Crow Creek or Fort D. A. Russell Target and Maneuver Reservation, Wyoming, may be expended by the Secretary of War, in his discretion, in the acquirement by purchase or condemnation proceedings of certain tracts of land required for the maneuvering of troops and other military purposes lying within the limits of the aforesaid reservation.

CONSTRUCTION AND MAINTENANCE OF MILITARY AND POST ROADS, BRIDGES, AND TRAILS, ALASKA: For the construction, repair, and maintenance of military and post roads, bridges, and trails in the district of Alaska, to be expended under the direction of the board of road commissioners described in section two of an Act entitled "An Act to provide for the construction and maintenance of roads, the establishment and maintenance of schools, and the care and support of insane persons in the District of Alaska, and for other purposes," approved January twenty-seventh, nineteen hundred and five, as amended by the Act approved May fourteenth, nineteen hun-

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dred and six, and to be expended conformably to the provisions of said Act as amended, one hundred and twenty-five thousand dollars.

BARRACKS AND QUARTERS, PHILIPPINE ISLANDS: Continuing the work of providing for the proper shelter and protection of officers and enlisted men of the Army of the United States lawfully on duty in the Philippine Islands, including repairs and payment of rents, the acquisition of title to building sites, and such additions to existing military reservations as may be necessary, and including also shelter for the animals and supplies, and all other buildings necessary for post administration purposes, five hundred thousand dollars: *Provided*, That no part of said sum shall be expended for the construction of quarters for officers of the Army, the total cost of which, including the heating and plumbing apparatus, wiring and fixtures, shall exceed in the case of quarters of a general officer the sum of eight thousand dollars; of a colonel or officer above the rank of captain, six thousand dollars; and of an officer of and below the rank of captain, four thousand dollars.

CLOTHING AND CAMP AND GARRISON EQUIPAGE: For cloth, woolens, materials, and for the manufacture of clothing for the Army, for issue and for sale at cost price according to the Army Regulations; for altering and fitting clothing and washing and cleaning when necessary; for equipage, and for expenses of packing and handling and similar necessaries; for a suit of citizen's outer clothing, to cost not exceeding ten dollars, to be issued upon release from confinement to each prisoner who has been confined under a court-martial sentence involving dishonorable discharge; for indemnity to officers and men of the Army for clothing and bedding, and so forth, destroyed since April twenty-second, eighteen hundred and ninety-eight, by order of medical officers of the Army for sanitary reasons, five million dollars, one-half of which amount shall be immediately available.

CONSTRUCTION AND REPAIR OF HOSPITALS: For construction and repair of hospitals at military posts already established and occupied, including the extra-duty pay of enlisted men employed on the same, and including also all expenditures for construction and repairs required at the Army and Navy Hospital at Hot Springs, Arkansas, and for the construction and repair of general hospitals and expenses incident thereto, and for additions needed to meet the requirements of increased garrisons, four hundred and fifty thousand dollars.

QUARTERS FOR HOSPITAL STEWARDS: For construction and repair of quarters for hospital stewards at military posts already established and occupied, including the extra-duty pay of enlisted men employed on the same, ten thousand dollars.

SHOOTING GALLERIES AND RANGES: For shelter, shooting galleries, ranges for small-arms target practice, repairs, and expenses incident thereto, including the extra-duty pay of enlisted men and hire of employees, such ranges and galleries to be open, as far as practicable, to the National Guard and organized rifle clubs under regulations to be prescribed by the Secretary of War: *Provided*, That of this amount the sum of three thousand four hundred and fifty dollars, or so much thereof as may be necessary, is made immediately available for the purchase of additional land adjoining the military reservation of Fort D. A. Russell, Wyoming, for use in connection with the rifle range, ninety-three thousand three hundred and thirty-six dollars.

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MAINTENANCE OF THE ARMY WAR COLLEGE: For supplying the necessary fuel for heating the Army War College building at Washington Barracks and for lighting the building and grounds; also for pay of a chief engineer, at one thousand two hundred dollars per annum; an assistant engineer, at nine hundred dollars; four firemen, at seven hundred and twenty dollars each; one elevator conductor, at seven hundred and twenty dollars, ten thousand seven hundred dollars.

RENT OF BUILDINGS, QUARTERMASTER'S DEPARTMENT: For rent of buildings and parts of buildings in the District of Columbia, for military purposes, during the fiscal year nineteen hundred and thirteen, as follows:

Field medical supply depot, five thousand five hundred and sixty-seven dollars and ten cents;

Signal Corps test rooms, two thousand one hundred dollars;

Quartermaster's stable, two thousand seven hundred dollars;

Quartermaster's stable and storehouse, four thousand nine hundred and thirty-eight dollars;

Quartermaster's storehouse, three thousand six hundred dollars;

Quartermaster's stable and warehouse, three thousand six hundred dollars;

Five floors for Army Medical School, eight thousand six hundred and eighty dollars;

Six rooms for attending surgeon and retiring board, one thousand dollars;

Depot quartermaster's office, two thousand five hundred dollars;

Garage, Quartermaster's Department, one thousand five hundred dollars;

One room (for storage purposes), Quartermaster's Department, fifty-four dollars;

Quarters for officers, noncommissioned officers, and privates on duty with troops where no public quarters are available, thirteen thousand three hundred and forty-seven dollars and ninety cents;

In all, forty-nine thousand five hundred and eighty-seven dollars.

For settlement of claims for damages to and loss of private property belonging to citizens of the United States, Hawaii, and the Philippine Islands, thirty-two thousand six hundred and sixteen dollars: *Provided*, That hereafter the Secretary of War is authorized to consider, ascertain, adjust, and determine the amounts due on all claims for damages to and loss of private property when the amount of the claim does not exceed the sum of one thousand dollars, occasioned by heavy gun fire and target practice of troops, and for damages to vessels, wharves, and other private property, found to be due to maneuvers or other military operations for which the Government is responsible, and report the amounts so ascertained and determined to be due the claimants to Congress at each session thereof through the Treasury Department for payment as legal claims out of appropriations that may be made by Congress therefor.

For the payment of claims of Indians and other claimants for the value of improvements made by them upon lands subsequently included in the Fort William H. Seward Military Reservation, two thousand three hundred and eighty-four dollars.

For reimbursement to one officer and certain enlisted men of the Army the money value of clothing worn out by them in the summer of

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nineteen hundred and ten while fighting forest fires in the Northwest, fifteen thousand eight hundred and sixty-two dollars and eight cents.

MEDICAL DEPARTMENT.

MEDICAL AND HOSPITAL DEPARTMENT: For the purchase of medical and hospital supplies, including ambulances and disinfectants, for military posts, camps, hospitals, hospital ships, and transports; for expenses of medical supply depots; for medical care and treatment not otherwise provided for, including care and subsistence in private hospitals, of officers, enlisted men, and civilian employees of the Army, of applicants for enlistment, and of prisoners of war and other persons in military custody or confinement, when entitled thereto by law, regulation, or contract: *Provided*, That this shall not apply to officers and enlisted men who are treated in private hospitals or by civilian physicians while on furlough; for the proper care and treatment of epidemic and contagious diseases in the Army or at military posts or stations, including measures to prevent the spread thereof, and the payment of reasonable damages not otherwise provided for for bedding and clothing injured or destroyed in such prevention; for the pay of male and female nurses, not including the Nurse Corps (female), and of cooks and other civilians employed for the proper care of sick officers and soldiers, under such regulations fixing their number, qualifications, assignment, pay, and allowances as shall have been or shall be prescribed by the Secretary of War; for the pay of civilian physicians employed to examine physically applicants for enlistment and enlisted men, and to render other professional services from time to time under proper authority; for the pay of other employees of the Medical Department; for the payment of express companies and local transfers employed directly by the Medical Department for the transportation of medical and hospital supplies, including bidders' samples and water for analysis; for supplies for use in teaching the art of cooking to the Hospital Corps; for the supply of the Army and Navy Hospital at Hot Springs, Arkansas; for advertising, laundry, and all other necessary miscellaneous expenses of the Medical Department, seven hundred thousand dollars.

ARMY MEDICAL MUSEUM AND LIBRARY: For Army Medical Museum, preservation of specimens, and the preparation and purchase of new specimens, five thousand dollars.

For the library of the Surgeon General's office, including the purchase of necessary books of reference and periodicals, ten thousand dollars.

BUREAU OF INSULAR AFFAIRS.

CARE OF INSANE FILIPINO SOLDIERS: For the care, maintenance, and treatment at asylums in the Philippine Islands of insane natives of the Philippine Islands cared for in such institutions conformably to the Act of Congress approved May eleventh, nineteen hundred and eight, two thousand dollars.

CARE OF INSANE SOLDIERS, PORTO RICO REGIMENT OF INFANTRY. For the care, maintenance, and treatment at asylums in Porto Rico of insane soldiers of the Porto Rico Regiment of Infantry, five hundred dollars.

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ENGINEER DEPARTMENT.

ENGINEER DEPOTS: For incidental expenses for the depots, including fuel, lights, chemicals, stationary, hardware, machinery, pay of civilian clerks, mechanics, and laborers, extra-duty pay to soldiers necessarily employed for periods not less than ten days as artificers on work in addition to and not strictly in the line of their military duties, such as carpenters, blacksmiths, draftsmen, printers, lithographers, photographers, engine drivers, telegraph operators, teamsters, wheelwrights, masons, machinists, painters, overseers, laborers; for lumber and materials and for labor for packing and crating engineer supplies; repairs of, and for materials to repair, public buildings, machinery, and for unforeseen expenses, twenty thousand dollars.

For purchase and repair of instruments to be issued to officers of the Corps of Engineers and to officers detailed and on duty as acting engineer officers for use on public works and surveys, ten thousand dollars.

ENGINEER SCHOOL, WASHINGTON, DISTRICT OF COLUMBIA: Equipment and maintenance of the Engineer School at Washington Barracks, District of Columbia, including purchase of instruments, machinery, implements, models, and materials for the use of the school and for instruction of engineer troops in their special duties as sappers and miners; for land mining, pontoniering, and signaling; for purchase and binding of professional works and periodicals of recent date treating of military and civil engineering and kindred scientific subjects for the library of the United States Engineer School; for incidental expenses of the school, including fuel, lights, chemicals, stationery, hardware, machinery, and boats; for pay of civilian clerks, draftsmen, electricians, mechanics, and laborers; compensation of civilian lecturers and payment of tuition fees of student officers at civil technical institutions; for extra-duty pay to soldiers necessarily employed for periods of not less than ten days as artificers on work in addition to and not strictly in the line of their military duties, such as carpenters, blacksmiths, draftsmen, printers, lithographers, photographers, engine drivers, telegraph operators, telephone operators, teamsters, wheelwrights, masons, machinists, painters, overseers, laborers; for repairs of and materials to repair public buildings and machinery; for unforeseen expenses; for travel expenses of officers on journeys approved by the Secretary of War and made for the purpose of instruction: *Provided*, That the traveling expenses herein provided for shall be in lieu of mileage and other allowances; and to provide means for the theoretical and practical instruction at the Engineer School by the purchase of textbooks, books of reference, scientific and professional papers, and for other absolutely necessary expenses, twenty-five thousand dollars.

ENGINEER EQUIPMENT OF TROOPS: For pontoon material, tools, instruments, and supplies required for use in the engineer equipment of troops, including the purchase and preparation of engineer manuals, ninety thousand dollars.

CIVILIAN ASSISTANTS TO ENGINEER OFFICERS: For services of surveyors, survey parties, draftsmen, photographers, master laborers, and clerks to engineer officers on the staff of division, corps, and department commanders, forty thousand dollars.

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CONTINGENCIES, ENGINEER DEPARTMENT, PHILIPPINE ISLANDS: For contingent expenses incident to the operations of the Engineer Department in the Philippine Islands, to be expended at the discretion of the Secretary of War, five thousand dollars.

ORDNANCE DEPARTMENT.

ORDNANCE SERVICE: For the current expenses of the Ordnance Department, in connection with purchasing, receiving, storing, and issuing ordnance and ordnance stores, comprising police and office duties, rents, tolls, fuel, light, water, and advertising, stationery, typewriters and adding machines, including their exchange, and office furniture, tools, and instruments of service; for incidental expenses of the ordnance service and those attending practical trials and tests of ordnance, small arms, and other ordnance stores; and for publications for libraries of the Ordnance Department, including the Ordnance Office, and payment for mechanical labor in the office of the Chief of Ordnance, three hundred thousand one hundred and eighteen dollars and thirty cents, of which amount the sum of one hundred and eighteen dollars and thirty cents shall be used for the reimbursement of the Ordnance Department on account of the loss of arms, arm chests, and screw drivers, issued to the Post Office Department.

ORDNANCE STORES—AMMUNITION: Manufacture and purchase of ammunition and materials therefor for small arms for reserve supply; ammunition for burials at the National Soldiers' Home in Washington, District of Columbia; ammunition for firing the morning and evening gun at military posts prescribed by General Orders, Numbered Seventy, Headquarters of the Army, dated July twenty-third, eighteen hundred and sixty-seven, and at National Home for Disabled Volunteer Soldiers and its several branches, including National Soldiers' Home in Washington, District of Columbia, and soldiers' and sailors' State homes, two hundred and fifty thousand dollars: *Provided*, That no part of this appropriation shall be paid for small-arms powder at a price exceeding seventy-one cents a pound.

SMALL-ARMS TARGET PRACTICE: Ammunition, targets, and other accessories for small-arms and machine-gun target practice and instruction; marksmen's medals, prize arms, and insignia for all arms of the service; and ammunition, targets, target material, and other accessories may be issued for small-arms target practice and instruction at the educational institutions and State soldiers' and sailors' orphans' homes, to which issues of small arms are lawfully made, under such regulations as the Secretary of War may prescribe, provided the total value of the stores so issued to the educational institutions does not exceed thirty thousand dollars, eight hundred thousand dollars: *Provided*, That no part of this appropriation shall be paid for small-arms powder at a price exceeding seventy-one cents a pound.

MANUFACTURE OF ARMS: For manufacturing, repairing, procuring, and issuing arms at the national armories, seven hundred thousand dollars.

ORDNANCE STORES AND SUPPLIES: For overhauling, cleaning, repairing, and preserving ordnance and ordnance stores in the hands of troops and at the arsenals, posts, and depots; for purchase and

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manufacture of ordnance stores to fill requisitions of troops; for Infantry, Cavalry, and Artillery equipments, including horse equipments for Cavalry and Artillery, seven hundred thousand dollars.

NATIONAL TROPHY AND MEDALS FOR RIFLE CONTESTS: For the purpose of furnishing a national trophy and medals and other prizes to be provided and contested for annually, under such regulations as may be prescribed by the Secretary of War, said contest to be open to the Army, Navy, Marine Corps, and the National Guard or Organized Militia of the several States, Territories, and of the District of Columbia, members of rifle clubs, and civilians, and for the cost of the trophy, prizes, and medals herein provided for, and for the promotion of rifle practice throughout the United States, including the reimbursement of necessary expenses of members of the National Board for the Promotion of Rifle Practice, to be expended for the purposes hereinbefore prescribed under the direction of the Secretary of War, ten thousand dollars.

AUTOMATIC MACHINE RIFLES: For the purchase, manufacture, and test of automatic machine rifles, including their sights and equipments, to be available until the close of the fiscal year ending June thirtieth, nineteen hundred and fourteen, one hundred and fifty thousand dollars.

FIELD ARTILLERY FOR ORGANIZED MILITIA: For the purpose of procuring field artillery material for the Organized Militia of the several States, Territories, and the District of Columbia, without cost to the said States, Territories, or the District of Columbia, but to remain the property of the United States and to be accounted for in the manner now prescribed by law, the Secretary of War is hereby authorized, under such regulations as he may prescribe, on the requisitions of the governors of the several States and Territories or the commanding general of the Militia of the District of Columbia, to issue said artillery material to the Organized Militia; and the sum of one million dollars is hereby appropriated and made immediately available and to remain available until the end of the fiscal year nineteen hundred and fourteen, for the procurement and issue of the articles constituting the same: *Provided*, That hereafter when authorized transfers or sales of ordnance or ordnance stores are made to another bureau of the War Department, or to another executive department of the Government, payment therefor shall be made by the proper disbursing officer of the bureau, office, or department concerned. When the transaction is between two bureaus of the War Department, the price to be charged shall be the cost price of the stores, including the cost of inspection. When the transaction is between the Ordnance Department and another executive department of the Government, the price to be charged shall include the cost price of the stores and the costs of inspection and transportation.

AMMUNITION FOR FIELD ARTILLERY FOR ORGANIZED MILITIA: For procuring reserve ammunition for Field Artillery for the Organized Militia of the several States, Territories, and the District of Columbia, one hundred thousand dollars.

There is hereby appropriated, out of any money in the United States Treasury not otherwise appropriated, the sum of thirty-three thousand dollars to reimburse the government of the District of Columbia for the site acquired for a reformatory for the District of Columbia, which site is hereby transferred to the Secretary of War

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for such purposes as may be hereafter specifically authorized by Congress, and the jurisdiction now vested in the Commissioners of the District of Columbia over said site, being that certain parcel of land in the county of Fairfax, State of Virginia, known as "Belvoir" or the "White House" tract, containing fifteen hundred acres, is hereby transferred to the Secretary of War: *Provided*, That the Secretary of War may, in his discretion, authorize the Commissioners of the District of Columbia to use such of the clay deposits on said site as may be required in the brick manufacturing plant in the Workhouse Institution at Occoquan, Virginia: *And provided further*, That the sum herein appropriated is hereby made available for the purposes contained in the District appropriation Act approved March thirty-first, nineteen hundred and nine, under the title of "sites for reformatory and workhouse," as amended by the provision contained in the urgent deficiency Act, approved August fifth, nineteen hundred and nine; and the provision contained in the Act approved March thirty-first, nineteen hundred and nine, that the two tracts of land to be acquired as sites for a reformatory and workhouse shall be widely separated, and all laws and parts of laws in conflict herewith are hereby repealed.

SEC. 2. That hereafter all enlistments in the Army shall be made for the term of four years, and for all enlistments hereafter accomplished four years shall be counted as an enlistment period in computing continuous-service pay.

SEC. 3. That the office establishments of the Quartermaster General, the Commissary General, and the Paymaster General of the Army are hereby consolidated and shall hereafter constitute a single bureau of the War Department, which shall be known as the Quartermaster Corps, and of which the Chief of the Quartermaster Corps created by this Act shall be the head. The Quartermaster's, Subsistence, and Pay Departments of the Army are hereby consolidated into and shall hereafter be known as the Quartermaster Corps of the Army. The officers of said department shall hereafter be known as officers of said corps and by the titles of the rank held by them therein, and, except as hereinafter specifically provided to the contrary, the provisions of sections twenty-six and twenty-seven of the Act of Congress approved February second, nineteen hundred and one, entitled "An Act to increase the efficiency of the permanent military establishment of the United States," are hereby extended so as to apply to the Quartermaster Corps in the manner and to the extent to which they now apply to the Quartermaster's, Subsistence, and Pay Departments, and the provision of said sections of said Act relative to chiefs of staff corps and departments shall, so far as they are applicable, apply to all offices and officers of the Quartermaster Corps with rank above that of colonel. The officers now holding commissions as officers of the said departments shall hereafter have the same tenure of commission in the Quartermaster Corps, and as officers of said corps shall have rank of the same grades and dates as that now held by them, and, for the purpose of filling vacancies among them, shall constitute one list, on which they shall be arranged according to rank: *Provided*, That when a permanent officer is promoted he shall take the relative rank of the officers in the grade to which he is promoted which he held as indicated in the relative rank of the Army on the Army Register of Nineteen hundred and twelve: *Provided further*, That so long as any officers shall remain on said list any vacancy occurring therein shall

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be filled, if possible, from among such officers, by selection if the vacancy occurs in a grade above that of colonel, and, if the vacancy occurs in a grade not above that of colonel, by the promotion of an officer who would have been entitled to promotion to that particular vacancy if the consolidation of departments hereby prescribed had never occurred: *Provided further*, That on and after the first day of January, nineteen hundred and seventeen, any vacancies occurring among officers of the Quartermaster Corps with rank above that of colonel may, in the discretion of the President, be filled by selection from among officers who shall have served by detail in said corps for not less than four years: *Provided further*, That the noncommissioned officers now known as post quartermaster sergeants and post commissary sergeants shall hereafter be known as quartermaster sergeants; the Army paymaster's clerks shall be known as pay clerks, and each of said noncommissioned officers and pay clerks shall continue to have the pay, allowances, rights, and privileges now allowed him by law: *Provided further*, That no details to fill vacancies in the grade of colonel in the Quartermaster Corps shall be made until the number of officers of that grade shall have been reduced by three, and thereafter the number of officers in that grade shall not exceed twelve; and no details to fill vacancies in the grade of lieutenant colonel in the Quartermaster Corps shall be made until the number of officers of that grade shall have been reduced by three, and thereafter the number of officers in that grade shall not exceed eighteen; and no details to fill vacancies in the grade of major in the Quartermaster Corps shall be made until the number of officers of that grade shall have been reduced by eleven, and thereafter the number of officers in said grade shall not exceed forty-eight; and no details to fill vacancies in the grade of captain in the Quartermaster Corps shall be made until after the number of officers of that grade shall be reduced by thirty-one, and thereafter the number of officers of said grade shall not exceed one hundred and two; and whenever the separation of a line officer of any grade and arm from the Quartermaster Corps shall create therein a vacancy that, under the terms of this proviso, can not be filled by detail such separation shall operate to make a permanent reduction of one in the total number of officers of said grade and arm in the line of the Army as soon as such reduction can be made without depriving any officer of his commission: *Provided further*, That whenever the Secretary of War shall decide that it is necessary and practicable, regimental, battalion, and squadron quartermasters and commissaries shall be required to perform any duties that junior officers of the Quartermaster Corps may properly be required to perform, and regimental and battalion quartermaster and commissary sergeants shall be required to perform any duties that noncommissioned officers or pay clerks of the Quartermaster Corps may properly be required to perform, but such regimental, battalion, and squadron quartermasters and commissaries shall not be required to receipt for any money or property which does not pertain to their respective regiments, battalions, or squadrons, and they shall not be separated from the organizations to which they belong: *Provided further*, That such duty or duties as are now required by law to be performed by any officer or officers of the Quartermaster's, Subsistence, or Pay Departments shall hereafter be performed by such officer or officers

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of the Quartermaster Corps as the Secretary of War may designate for the purpose: *Provided further*, That there shall be a Chief of the Quartermaster Corps, who shall have the rank of major general during the service as such of the first incumbent of the office, and thereafter the rank of brigadier general while so serving, and who shall be appointed by the President, by and with the advice and consent of the Senate, from among the officers of said corps and in accordance with the requirements of section twenty-six of the Act of Congress approved February second, nineteen hundred and one, hereinbefore cited: *Provided further*, That when the first two vacancies in the grade of brigadier general in the Quartermaster Corps, except a vacancy caused by the expiration of a limited term of appointment, shall hereafter occur those vacancies shall not be filled, but the office in which the vacancies occur shall immediately cease and determine: *Provided further*, That the Quartermaster Corps shall be subject to the supervision of the Chief of Staff to the extent the departments hereby consolidated into said corps have heretofore been subject to such supervision under the terms of the existing law: *Provided further*, That for the purpose of carrying into effect the provisions of this section the President is hereby authorized to appoint, by and with the advice and consent of the Senate, the major general herein provided for immediately upon the passage of this Act, and it shall be the duty of the said major general, under direction of the President and the Secretary of War, to put into effect the provisions of this section not less than sixty days after the passage of this Act.

SEC. 4. That as soon as practicable after the creation of a Quartermaster Corps in the Army not to exceed four thousand civilian employees of that corps, receiving a monthly compensation of not less than thirty dollars nor more than one hundred and seventy-five dollars each, not including civil engineers, superintendents of construction, inspectors of clothing, clothing examiners, inspectors of supplies, inspectors of animals, chemists, veterinarians, freight and passenger rate clerks, civil service employees and employees of the classified service, employees of the Army transport service and harbor-boat service, and such other employees as may be required for technical work, shall be replaced permanently by not to exceed an equal number of enlisted men of said corps, and all enlisted men of the line of the Army detailed on extra duty in the Quartermaster Corps or as bakers or assistant bakers shall be replaced permanently by not to exceed two thousand enlisted men of said corps; and for the purposes of this Act the enlistment in the military service of not to exceed six thousand men, who shall be attached permanently to the Quartermaster Corps and who shall not be counted as a part of the enlisted force provided by law, is hereby authorized: *Provided*, That the enlisted force of the Quartermaster Corps shall consist of not to exceed fifteen master electricians, six hundred sergeants (first class), one thousand and five sergeants, six hundred and fifty corporals, two thousand five hundred privates (first class), one thousand one hundred and ninety privates, and forty-five cooks, all of whom shall receive the same pay and allowances as enlisted men of corresponding grades in the Signal Corps of the Army, and shall be assigned to such duties pertaining to the Quartermaster Corps as the Secretary of War may prescribe: *Provided further*, That the Secretary of War may fix the

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limits of age within which civilian employees who are actually employed by the Government when this Act takes effect and who are to be replaced by enlisted men under the terms of this Act may enlist in the Quartermaster Corps: *Provided further*, That nothing in this section shall be held or construed so as to prevent the employment of the class of civilian employees excepted from the provisions of this Act or the continued employment of civilians included in the Act until such latter employees have been replaced by enlisted men of the Quartermaster Corps.

SEC. 5. That hereafter, except in time of war or when war is imminent, no officer who shall have served four years as Chief of Staff shall be eligible for further service as Chief of Staff until after he shall have served for at least two years with the line of the Army; neither shall any officer, after the fifth day of March, nineteen hundred and thirteen, be detailed, nor be permitted to serve, as Chief of Staff unless he shall have served at least ten years as a commissioned officer of the line of the Army in grades below that of brigadier general, and the General Staff Corps shall hereafter consist of two general officers, one of whom shall be Chief of Staff, three colonels, four lieutenant colonels, eight majors, and ten captains or first lieutenants, all of whom shall be detailed from the Army at large in the manner and for the periods provided by law, and hereafter details to the General Staff Corps, excepting the two general officers, shall be subject to the provisions of section twenty-seven of the Act of Congress approved February second, nineteen hundred and one, entitled "An Act to increase the efficiency of the permanent military establishment of the United States." All officers of the line of the Army now detailed for service in any staff corps, or department, or in the General Staff Corps, shall be relieved from duty in said corps at the expiration of their present periods of detail, or sooner if the President shall so direct, and all officers hereafter detailed for service in the staff corps, departments, and General Staff Corps shall be relieved therefrom at the expiration of four years of such service, or sooner if the President shall so direct, and no officer who shall have served for four years under detail in any staff corps, or department, or the General Staff Corps, shall be eligible for further service therein until after he shall have served at least two years with the branch of the Army in which commissioned, except in time of war or when war is imminent: *Provided*, That hereafter when any officer shall, under the provisions of section twenty-six of the Act of Congress approved February second, nineteen hundred and one, be appointed to an office with rank above that of colonel, his appointment to said office and his acceptance of the appointment shall create a vacancy in the arm, staff corps, or staff department, from which he shall be appointed, and said vacancy shall be filled in the manner prescribed by existing law, but he shall retain in said arm, staff corps, or staff department, the same relative position that he would have held if he had not been appointed to said office, and he shall return to said relative position upon the expiration of his appointment to said office, unless he shall be reappointed thereto. If under the operation of this proviso the number of officers of any particular grade in any arm, staff corps, or staff department, shall at any time exceed the number authorized by law, no vacancy occurring in said grade shall be filled until after the total number of officers therein shall have been reduced to the number authorized by law.

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SEC. 6. That hereafter the service of a cadet who may hereafter be appointed to the United States Military Academy or to the Naval Academy shall not be counted in computing for any purpose the length of service of any officer of the Army.

SEC. 7. That the appropriations herein provided for the several departments consolidated under this Act shall be available for the consolidated corps herein created.

SEC. 8. That nothing in this act shall be held or construed so as to separate any officer from the Army or to diminish the rank now held by him, and that all laws and parts of laws, so far as they are inconsistent with the terms of this Act, be, and they are hereby, repealed.

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 852.

APPROPRIATION FOR CAMP AND MANEUVERS OF ORGANIZED MILITIA OF THE UNITED STATES.

MESSAGE

FROM THE

PRESIDENT OF THE UNITED STATES,

RECOMMENDING

AN APPROPRIATION FOR ENCAMPMENT AND MANEUVERS OF THE ORGANIZED MILITIA.

JUNE 24, 1912.—Read, referred to the Committee on Military Affairs, and ordered to be printed.

To the Senate and House of Representatives:

Very complete arrangements have been tentatively prepared for the participation in camps and maneuvers of a large portion of the Organized Militia of the United States. Preparation has been made for this most important military instruction both by the United States and by the various States whose Organized Militia will participate. The magnitude of the maneuver plans can be seen when it is estimated that 70,000 officers and enlisted men of the Organized Militia will take part in them during the coming year. Should it be impossible to carry out the contemplated maneuvers it will be at a very great loss of efficiency to the troops concerned and will entail a great disappointment to the thousands of men who, with the maneuvers in view, have been preparing themselves therefor.

In contemplation of the maneuvers it has been necessary already to expend the sum of $80,000 from the unexpended balance of last year's appropriation for maneuver purposes for the Organized Militia, which sum will be lost should the project of maneuvers not be consummated. In addition to this the various States have made arrangements to expend large amounts from their apportionment from the funds appropriated by Congress under section 1661, Revised Statutes, or from funds appropriated by the State. Without an appropriation by Congress the maneuvers may not be held. I have the honor, therefore, strongly to recommend and urge that the following item, taken from House bill No. 18956 (Army appropriation bill), be enacted

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separately and specially: "$1,350,000, encampment and maneuvers, Organized Militia, 1912–14."

In addition to the appropriation for the Organized Militia for maneuver purposes, it would be necessary that certain amounts be appropriated and made immediately available for the Regular Army to participate with the Organized Militia and aid the latter in the purpose of the maneuvers. This appropriation would total $367,500, and is made up of the following items:

Regular supplies	$160,000
Incidental expenses	4,500
Barracks and quarters	33,000
Army transportation	75,000
Roads and walks, etc	4,000
Water and sewers	57,000
Clothing and equipage	34,000
Total	367,500

The immense importance of the training of the militia leads me again to urge most strongly that the two appropriations mentioned be made available on or before the second day of July, 1912, since, unless the maneuvers can be definitely determined upon by that date, the plans for the encampments and maneuvers of a great portion of the Organized Militia of the United States will have to be abandoned.

WM. H. TAFT.

THE WHITE HOUSE, *June 24, 1912.*

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62D CONGRESS, 2d Session } HOUSE OF REPRESENTATIVES { DOCUMENT No. 863

NEW CONSTITUTION FOR OHIO

AN EXPLANATION OF THE WORK OF OHIO'S FOURTH CONSTITUTIONAL CONVENTION BY THE PRESIDENT, HON. HERBERT S. BIGELOW :: :: ::

JULY 5, 1912.—Ordered to be printed

WASHINGTON
1912

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A NEW CONSTITUTION FOR OHIO.

The recasting of the political institutions of America—this is what is coming out of the progressive movement of our times.

A stage-coach government has lasted way into these days of the wireless message and the aeroplane. But the time for readjustment has come. We are bringing our political institutions up to date.

The greatest commercial asset a State can have is an honest, efficient, and progressive government. Such a government contributes to the moral no less than to the material well-being of a commonwealth. The demand for such a government is the token of a great awakening that has come to the American people. In no State is there greater evidence of this awakening than in the State of Ohio at the present time.

The people of Ohio are now engaged in making over the fundamental law of the State. For the first five months of this year a constitutional convention has been at work at this task. This convention has recommended 42 amendments to the State constitution. The people are to vote upon these amendments at a special election the 3d day of September. The following is a facsimile of the ballot to be used at this election:

OFFICIAL BALLOT.

Special election, Tuesday, September 3, 1912.

AMENDMENTS TO THE CONSTITUTION.

(First column.)

To vote *for* any amendment place a cross mark in the blank space to the left of the word "Yes" opposite the title of such amendment.

To vote *against* any amendment place a cross mark in the blank space to the left of the word "No" opposite the title of such amendment.

1		Yes.	Article I, section 5.
		No.	Reform in civil-jury system.
2		Yes.	Article I, section 9.
		No.	Abolition of capital punishment.
3		Yes.	Article I. section 10.
		No.	Depositions by State and comment on failure of accused to testify in criminal cases.
4		Yes.	Article I, section 16.
		No.	Suits against the State.

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5		Yes.	Article I, section 19a.
		No.	Damage for wrongful death.
6		Yes.	Article II, section 1, 1a, 1b, 1c, 1d, 1e, 1f, 1g.
		No.	Initiative and referendum.
7		Yes.	Article II, section 8.
		No.	Investigations by each house of general assembly.
8		Yes.	Article II, section 16.
		No.	Limiting veto power of governor.
9		Yes.	Article II, section 33.
		No.	Mechanics' and builders' liens.
10		Yes.	Article II, section 34.
		No.	Welfare of employees.
11		Yes.	Article II, section 35.
		No.	Workmen's compensation.
12		Yes.	Article II, section 36.
		No.	Conservation of natural resources.
13		Yes.	Article II, section 37.
		No.	Eight-hour day on public works.
14		Yes.	Article II, section 38.
		No.	Removal of officials.
15		Yes.	Article II, section 39.
		No.	Regulating expert testimony in criminal trials.
16		Yes.	Article II, section 40.
		No.	Registering and warranting land titles.
17		Yes.	Article II, section 41.
		No.	Abolishing prison contract labor.
18		Yes.	Article III, section 8.
		No	Limiting power of general assembly in extra sessions.

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19		Yes.	Article IV, sections 1, 2, and 6.
		No.	**Change in judicial system.**
20		Yes.	Article IV, sections 3, 7, 12, and 15.
		No.	**Judge of court of common pleas for each county.**
21		Yes.	Article IV, section 9.
		No.	**Abolition of justices of the peace in certain cities.**
22		Yes.	Article IV, section 21.
		No.	**Contempt proceedings and injunctions.**
23		Yes.	Article V, section 1.
		No.	**Woman's suffrage.**
24		Yes.	Article V, section 1.
		No.	**Omitting word "white."**
25		Yes.	Article V, section 2.
		No.	**Use of voting machines.**
26		Yes.	Article V, section 7.
		No.	**Primary elections.**
27		Yes.	Article VI, section 3.
		No.	**Organization of boards of education.**
28		Yes.	Article VI, section 4.
		No.	**Creating the office of superintendent of public instruction to replace State commissioner of common schools.**
29		Yes.	Article VIII, section 1.
		No.	**To extend State bond limit to fifty million dollars for intercounty wagon roads.**
30		Yes.	Article VIII, section 6.
		No.	**Regulating insurance.**
31		Yes.	Article VIII, section 12.
		No.	**Abolishing board of public works.**

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32		Yes.	Article XII, sections 1, 2, 6, 7, 8, 9, 10, and 11.
		No.	**Taxation of State and municipal bonds, inheritances, incomes, franchises, and production of minerals.**
33		Yes.	Article XIII, section 2.
		No.	**Regulation of corporations and sale of personal property.**
34		Yes.	Article XIII, section 3.
		No.	**Double liability of bank stockholders and inspection of private banks.**
35		Yes.	Article XV, section 2.
		No.	**Regulating State printing.**
36		Yes.	Article XV, section 4.
		No.	**Eligibility of women to certain offices.**
37		Yes.	Article XV, section 10.
		No.	**Civil service.**
38		Yes.	Article XV, section 11.
		No.	**Out-door advertising.**
39		Yes.	Article XVI, sections 1, 2, and 3.
		No.	**Methods of submitting amendments to the constitution.**
40		Yes.	Article XVIII, sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, and 14.
		No.	**Municipal home rule.**
41		Yes.	**Schedule of amendments.**
		No.	

(Second column.)

INTOXICATING LIQUORS.

To vote *for* license to traffic in intoxicating liquors place a cross mark in the blank space to the left opposite the words: "For license to traffic in intoxicating liquors."

To vote *against* license to traffic in intoxicating liquors place a cross mark in the blank space to the left opposite the words: "Against license to traffic in intoxicating liquors."

	For license to traffic in intoxicating liquors.
	Against license to traffic in intoxicating liquors.

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The amendments in the first column of the ballot do not appear in the order of their importance. The sequence followed is the order in which the amendments will appear if incorporated in the constitution.

REORGANIZATION OF THE JUDICIARY.

Eight of these amendments have to do with changes in court procedure. They appear in different places on the ballot but constitute a distinct group and may be considered together. The ballot numbers of these judiciary amendments are 1, 3, 4, 5, 15, 19, 20, and 21. This group represents an important part of the convention's work. The aim was to cure the evil of the law's delay, to dispel the fog of tradition and technicality, and to insure the boon of cheap and priceless justice for rich and poor alike.

No. 1 authorizes a verdict in civil cases by a three-fourths vote of the jury.

No. 3 makes it less easy for the accused to thwart the ends of justice by a refusal to take the witness stand.

No. 4 requires claims against the State to be tried in a court and not before the legislature, as at present.

No. 5 forbids the legislature to put a price upon human life or to limit the damages that may be recovered in the case of death resulting from the wrongful act of another.

No. 15 authorizes laws calculated to prevent the scandal of alleged experts being employed to testify for the side that pays them.

No. 20 provides that each county shall have one resident common pleas judge, and permits the people of the smaller counties, if they so decide by referendum vote, to combine in one the common pleas and probate courts.

No. 21 restricts the election of justices of the peace to townships in which no other court is maintained and confines the jurisdiction of each justice to the township in which he is elected.

No. 19 is the amendment which provides for the reorganization of the judiciary. This amendment creates a chief justice to preside over the six judges of the supreme court. It creates courts of appeal to take the place of the present circuit courts. It provides that for all ordinary cases there shall be but one trial in the common pleas court and one review in the court of appeals. Litigants can not be dragged on up to the supreme court as at present. Only certain classes of cases can be taken to the supreme court. All constitutional questions may be appealed to the highest tribunal. But it takes six of the seven judges to declare a law unconstitutional. Under court procedure in Ohio a litigant is fortunate if his case is determined within five years. Under the proposed reorganization of the court it is estimated that this time will be reduced to three years or less. The slogan of "One trial, one review" is destined to become popular in Ohio. In this era of high prices there is nothing more burdensome than the high cost of justice. There were great lawyers in Ohio's fourth constitutional convention. Their work is proof that they were actuated by motives of the highest patriotism, as the attorneys of all the people.

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LABOR AMENDMENTS.

There are five amendments that relate to the subject of labor.

No. 10 clothes the legislative department of the State with ample power to pass whatever laws may be deemed necessary for the welfare of employees. All constitutional bars are removed. Anything may be done to protect workers even to the establishment of a minimum wage. This amendment does not presume to say what shall be done. It proposes to leave the people of the State free to deal with this gravest of problems according to their best judgment and experience.

Hardly less important is No. 11. Under this amendment it will be possible, if at any time in the future it shall be thought desirable, to establish a compulsory system of insuring employees against injury, disease, and death arising from their occupations.

No. 13 fixes the principle of the 8-hour day in the constitution by making it mandatory for all public work.

No. 17 abolishes prison contract labor, but provides that all State institutions may be supplied by prison labor.

No. 22 puts an end to the use of the injunction in labor disputes, except to preserve physical property from injury, and in all such cases the accused must, upon demand, be granted a trial by jury.

Ohio's constitution was framed 60 years ago. Since then an industrial revolution has taken place. Modern invention has resulted in marvelous wealth production. But we speed up our machines with too little regard for the workers. The conservation of humanity is the Nation's first duty. The Republic is cheated if the child is robbed. The sacrifice of motherhood means the decay of the race. The care of the women and children is an imperative function of government. It is hardly to be doubted that the people of Ohio will adopt these great labor amendments and thereby give humanity its rightful place as the chief concern of the State.

FIFTEEN MINOR AMENDMENTS.

Of the 28 other amendments, 15 may be characterized as minor and the other 13 as major amendments, the latter involving disputed principles or policies of government, the former pertaining to matters about which there is little room for disagreement.

In some instances the language of the Ohio constitution has been so construed as to prevent obviously proper legislation. Often these matters were not of sufficient importance to warrant an independent effort to amend the constitution. But it was the manifest duty of the constitutional convention, once in session, to remove these obstacles. For instance, the constitution stood in the way of laws to prevent a dishonest merchant from disposing of his merchandise overnight with intent to defraud his creditors. Amendment No. 33 not only authorizes legislation of this character but embraces also the right of protecting the public against the sale of fraudulent stocks or other securities.

The use of voting machines had been declared unconstitutional. Amendment No. 25 removes this inhibition.

A question had been made of the constitutionality of appointing women to membership upon State boards or to positions having to

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do with institutions involving the care of women and children. Amendment No. 36 sets this question at rest.

The guaranties of the bill of rights had been quoted against the right of the community to legislate on the subject of billboards. No. 38 gives the city the right to be beautiful.

The Ohio constitution restricts the right of voting to white male citizens. The word "white" is a curious obsolescence of ante-bellum days. No. 24 strikes this word out.

No. 7 gives the general assembly certain rights to conduct investigations which had been declared unconstitutional.

No. 8 corrects an error that was made by the legislature in formulating a governor's veto amendment that was adopted in 1903.

No. 9 gives constitutional authority for legislation providing for a lien upon buildings to protect mechanics and material men.

No. 18 limits an extra session of a general assembly to legislation specifically stated in the call of the governor.

No. 27 establishes the right of the people of a school district to determine by referendum vote the size and organization of their school board.

No. 28 makes the State superintendent of schools a constitutional officer.

No. 30 permits the State to insure in mutual insurance companies, a practice which was regarded as unconstitutional.

No. 31 substitutes a superintendent in place of the present board of public works.

No. 34 applies to all banking institutions the principle of double liability for stockholders and makes them all subject to inspection and regulation by the State.

No. 35 authorizes the State to do its own printing.

THIRTEEN MAJOR AMENDMENTS.

It was concerning the 13 remaining amendments that the sharpest divisions occurred in the convention. It is upon these that public discussion will be chiefly centered.

No. 2 provides for the abolition of capital punishment.

No. 12 gives the State full authority to carry out projects for the conservation of its natural resources.

No. 14 provides that, in addition to the impeachment proceedings of the constitution, laws may be passed establishing other means of removing, for cause and upon investigation, judges or other public servants. This amendment practically authorizes the recall, but leaves it to the people of the State to establish it by law or not, as they choose.

No. 16 permits the establishment by law of the so-called Torrens land title guaranty system.

No 23, if adopted, will give women equal voting rights with men after January 1, 1913.

No. 26, if adopted, will make the direct primary mandatory for the nomination of all elective officers, except the officers of townships or of municipalities under 2,000 population. This amendment also provides for the direct election of all delegates to national political conventions and requires that each candidate shall have printed upon

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the ballot, and below his name, his first and second choice for President.

No. 29 authorizes an issue of $10,000,000 in bonds each year for five years, an aggregate of fifty millions, for the construction and maintenance at State expense of intercounty wagon roads.

No. 32 is the taxation amendment. A strenuous effort was made to provide in the constitution for the classification of property. This effort failed, however, and the proposed amendment adheres to the uniform rule whereby all property, notwithstanding its nature, must be assessed at its true value in money and taxed at the same rate. The debates of the convention clearly showed that in view of the conflicting interests there is not likely to be any satisfactory solution of the taxation question short of complete home rule. When State and local taxation are completely separated and each county is required to pay its ratable share toward the expense of the State, then one county can have no interest in the taxation system of another. Each county may then safely be permitted to adopt the system which it believes best calculated to promote justice and the general prosperity.

No. 37 provides that laws shall be passed establishing the merit system of competitive examination for all appointive officers.

No. 39 provoked little discussion in the convention. Nevertheless, it should be included with the major amendments. It provides a rational method of amending the constitution. Experience had shown that it was practically impossible to amend the constitution of Ohio, by reason of the fact that all amendments were required to be submitted at the time of a regular election and to receive, if adopted, a majority of all votes cast at the election. No. 39 provides that amendments need only receive a majority of the votes cast directly upon them.

We now have left three amendments, which, by common consent, are the most important to be voted upon at the special election.

LIQUOR LICENSE.

It is proposed to establish in Ohio a license system for the control of the liquor traffic. At the top of the second column of the ballot, set off and apart from the rest, will appear this liquor-license amendment. What promised to be an irreconcilable division in the convention ended most amicably. Both the liberals and those inclining to the principle of prohibition seemed to acquiesce in this amendment as a fair solution of the question and one which promises to receive a very large vote of approval at the polls. It will be difficult for the temperance forces of the State to oppose the measure, since the effect of it will be to close over 2,000 saloons. On the other hand, it is precisely what the liberals have been contending for, as the operation of the system would bring the traffic under orderly control and free it from the abuses which have provoked interminable warfare and disturbed the business and peace of so many communities.

HOME RULE FOR CITIES.

No. 40 is the municipal-government amendment. It is second only to the initiative and referendum in importance. Its adoption will bring a great, peaceful, and beneficent revolution. It will set the

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cities of Ohio free. Under it the people of any municipality may elect charter commissioners, frame and adopt their own form of government, and thereafter change it as they deem proper. They need no longer conform to a rigid, uniform system prescribed by the State legislature. The amendment leaves the State supreme in matters that are of general concern. The city will still be subject to the police power of the State and to any general laws concerning taxation and the power to incur debt; but within these reasonable limits the largest powers of local self-government are granted, including the power to buy or condemn and to own and operate any public utility. This means the end of a long and profitable alliance between corrupt politics and special-privilege corporations. It means the breaking up of a domination of evil forces in city government. Under this amendment the cities of Ohio are sure to experience a new birth and attain to greater and vastly greater heights of commercial and moral grandeur.

Before referring, finally, to No. 6, the initiative and referendum amendment, a word should be said concerning the schedule of amendments which appears as No. 41 upon the ballot. This is not an amendment proper. It contains merely the necessary provisions fixing the time when the amendments, if adopted, are to become effective.

THE OPPORTUNITY OF OHIO PROGRESSIVES.

The 3d of September, the day after Labor Day, this is the day for the special election when the people of Ohio are to pass upon the 42 amendments to the State constitution.

The people of Ohio have more at stake in this election than they have had in any election since the war. Their failure to ratify, at least the more important of these amendments, would be a most serious setback to the progressive movement in the State. It would be a blow to the progressive cause everywhere, for the eyes of the Nation will be upon Ohio.

As to some of these proposed amendments the progressives themselves are divided. But there is at least one amendment on which all real progressives are united.

THE INITIATIVE AND REFERENDUM.

Faith in the initiative and referendum is the acid test of the progressive. Ohio's vote upon this amendment will be heralded far and wide. If it were defeated Wall Street would go into ecstasies of delight. If, on September 3, the initiative and referendum amendment is adopted by an impressive majority, the returns will come like the handwriting upon the wall to those who revel at the feast of privilege. A crushing victory in Ohio now for the initiative and referendum will win the East for the cause of popular government as the West has already been won. It will be the beginning of the end of the rule of big interests. It will be the full dawn at last of a real people's government for the whole Nation.

The time for action has now come. The men on the farms and in the factories and the mines, the merchants, teachers, doctors, and lawyers, all who earn an honest living by trying to render useful service to mankind, these are the men who must decide the issue on September 3, between the great busy people of Ohio who demand

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only that government shall be administered in the interests of all, and those who conspire to pervert government and make it the means of cheating and robbing the public for their own aggrandizement.

This is the time to settle the issue between the public welfare and arrogant private interests; between the Commonwealth and the wealth of privileged corporations.

A SLOGAN FOR THE BATTLE.

As for the outcome of this battle on the 3d of September, we have this to reassure us. The initiative and referendum has never yet been rejected by popular vote in any State in the Union. But we should not aim merely at a victory. What about the size of the victory? It should be decisive. It should be decisive enough to put every Bourbon battery out of commission. Here's a slogan for the charge—"A half million majority for No. 6." Whatever else we do let us seek out the initiative and referendum, which will be No. 6 on the ballot, and vote for that. Let us talk No. 6 from now until September 3. Let us volunteer to stand at the polls election morning when the bulk of the voting is done. Let us organize to see that the count is watched on election night. "A half million majority for No. 6." With this slogan the rout of the enemy should be complete.

There are but two questions involved. Are you in favor of popular government? Is this initiative and referendum amendment, providing for popular government, a wise and fair measure?

SHALL THE PEOPLE RULE?

It is a waste of time to argue with the man who is against popular government. He ought to move out of America. There is no reason why he should glory in the memories of Lexington and Concord. What heart throb can he feel at the sight of the American flag? The reading of the Declaration of Independence—what thrill of patriotism can that awaken in the breast of the un-American citizen who sneers at the principle of the initiative and referendum and boasts of his contempt for this doctrine of popular government which is the living spirit of all our American institutions?

Argument is wasted on such a man. Bury him with an avalanche of ballots on September 3.

But there are those who believe in popular government and yet whose minds have been troubled by misrepresentations that have been made to them about this initiative-and-referendum amendment.

Every such man can be won, because this initiative-and-referendum amendment is so fair that no one who understands it can possibly object to it if in his heart he really believes that the people should rule. We do not need to make converts to the doctrine of popular government. The American people were born into that faith. No power on earth could swerve them from it.

A FAIR INITIATIVE AND REFERENDUM.

The only argument we need to make is to state in words of simple truth just what this initiative-and-referendum amendment actually provides. If the people understand precisely what this amendment

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is, there is no more danger of their voting against it than there would be of their voting against the Declaration of Independence if that were No. 6 on the ballot, for the initiative and referendum is nothing more or less than the necessary provision for the application of the principle of the Declaration of Independence to political conditions in our time.

Precisely what, then, does this initiative-and-referendum amendment provide?

THE REFERENDUM.

First, as to the referendum. If a clique of politicians or a corporation lobby bribes or bullies through the legislature a law which the people do not want, the people are given 90 days after the adjournment of the legislature in which they may file a petition demanding a direct vote upon such a law.

If 60,000 voters sign their names to these petitions, and if the signers of these petitions are distributed over at least half the counties of the State, then the law is thereby suspended until the people have a chance to pass their judgment upon it at the polls. This amendment does not provide for any special elections. Such voting must all be done at the time of regular elections. The operation of the law is suspended by the petition until the next regular fall election, at which time the people say whether or not it shall go into effect.

No one to-day has the hardihood to object to the referendum. If the people should be masters of the legislature, then the referendum is right beyond dispute. If the referendum is wrong, it is because legislatures should have a right to force unpopular laws upon an unwilling people. That horn of the dilemma is a hot poker which the boldest Bourbon will not touch.

The enemies of popular government all sing low on the referendum. They have no courage to tackle that. But it appears that they are still blind and foolish enough to hope that they can persuade the people to vote against the initiative.

THE INITIATIVE.

What, then, is the initiative? The initiative involves the same principle as the referendum. The referendum is the right of the people to kill laws which the legislature has passed. The initiative is the right of the people to pass laws which the legislature has killed. Both are necessary if the people are to control their public servants.

Of course it is always easy to knock down a straw man. Valid objections can be made, not against the principle of the initiative, but against the initiative amendments that have been proposed in some of the States.

But let no man be persuaded to vote against the Ohio initiative because of the alleged defects of the initiative in Oregon or Oklahoma or some other State. For nowhere in America or in the world is there an initiative provision like the one proposed for Ohio. This amendment must be judged upon its own merits. Moreover, when this amendment is understood it will be seen that the stock arguments made against the initiative do not apply to it. The Ohio initiative has been so framed as to remove every possible ground of objection.

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This amendment provides that any group of citizens desiring a law may draft and print it in full upon petitions. If 3 per cent of the electors of the State, distributed over half the counties of the State, sign the petitions, the proposed law may then be filed with the secretary of state, who must formally present it to the legislature. If the legislature passes it exactly as presented, then it is a law and that is the end of it, except that it is still subject to the referendum, like any other act of the legislature.

If the legislature takes no action, then, by filing a petition of an additional 3 per cent of the electors, the measure can be placed on the ballot at the next regular election, to be voted upon by the people.

If the legislature amends the measure and then passes it, the amendments may be good or bad. If the amendments are good and really improve the measure, its friends will be pleased and will have no motive to file a supplementary petition. But if the amendments are bad, the people have the right, by filing petitions signed by an additional 3 per cent of the electors, to require a popular vote upon the measure as originally petitioned for.

If the legislature has added to the measure some amendments that are good and others that are bad, the measure may be printed upon the supplementary petitions with the good amendments incorporated and the bad ones omitted, so that the measure which goes to popular vote may have the benefit of any honest effort to improve it in the legislature, and yet may be protected against legislative trickery and bad faith.

In the event that the legislature passes the measure in amended form and the people subsequently demand its submission and pass it, the act of the legislature becomes void and the law as adopted by the people prevails.

All reasonable safeguards are incorporated in this initiative provision guaranteeing the genuineness of signatures. Provision is made for the distribution to the voters of a pamphlet containing the text of all measures submitted to popular vote, together with arguments furnished by advocates and opponents. The educational value of this system is abundant justification for it.

TACTICS OF THE ENEMY.

The privileged interests made a futile effort to prevent the constitutional convention from submitting the initiative and referendum to the voters.

They could not tell the people that they ought not to trust themselves. Much less could they afford to be frank and say that they opposed the initiative and referendum because, by the initiative and referendum, the people could put an end to political corruption and corporation graft. They were therefore driven to a disingenuous attack. They collected money from public-service corporations and had boiler plate sent to the country editors in an attempt to make the farmers think that the initiative and referendum was being promoted for the purpose of securing the single tax upon land values.

This argument was nothing short of an insult to the intelligence of Ohio farmers. Henry George and his followers were the first in this country to urge the adoption of the Australian ballot. There is no

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more reason for opposing the initiative and referendum because a few of those who believe in it are single taxers than there is to abolish the Australian ballot because Henry George favored it.

But this argument was all the interests could think of. It was their last desperate attempt to prevent the inevitable. But the farmer members were not to be moved by such claptrap. So, when these interests saw that their attack had failed and that the initiative and referendum could not be defeated in the convention, they planned one final move. It was a cheap little lobbyist trick, but did not work.

A TRICK THAT FAILED.

With a blare of trumpets in the convention they offered an amendment to prevent using the initiative and referendum to secure the single tax. What they desired was that this amendment should be rejected so that they could go out from the convention to the farmers and conduct an anti single-tax campaign against the ratification of the initiative and referendum. But the friends of the initiative and referendum in the convention accepted this inhibition against the single tax and thereby wrested from the special interests the weapon they were forging. They can not now ask the farmers to vote against the initiative and referendum to prevent the single tax, for under this Ohio initiative it is not possible to pass a law establishing the single tax.

How then are they going to fight? In truth they seem to be in a bad way. But the people in this crisis should leave nothing to chance. A corrupt politician and a privilege-holding corporation hate the initiative and referendum as much as a bribe taker hates the dictograph or a thief daylight. That they will fight is certain. They never give up. The very fact that they seem so hopelessly defeated may be turned to their great advantage. Many a battle won has been lost because men laid down their arms prematurely to celebrate their victory.

A CAUSE THAT IS GLORIOUS.

The best news that the wires can flash on the night of September 3 will be that Ohio has adopted the initiative and referendum by a majority of half a million. Until then let us fight, not foolishly but as men who know the power and resourcefulness of the enemy. For this is the greatest conflict in our time between the might of money and the enthusiasm for liberty; between the pride and power of a few of the Nation's proprietors and the hopes and aspirations of the American people.

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WOOL AND WOOLENS

ARTICLE ENTITLED "THE REPORT OF THE TARIFF BOARD ON WOOL AND WOOLENS," BY DR. F. W. TAUSSIG, PROFESSOR OF POLITICAL ECONOMY IN HARVARD UNIVERSITY

From American Economic Review, June, 1912

PRESENTED BY MR. McCALL OF MASSACHUSETTS

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THE REPORT OF THE TARIFF BOARD ON WOOL AND WOOLENS.

The Tariff Board report on wool and woolens fills four volumes, 1,200 pages in all. It contains a mass of valuable information. Even those who have followed the previous literature on the subject, official and unofficial, can not fail to find here new and helpful material. Whatever be the serviceability of the report toward settling legislation, its usefulness to the honest-minded inquirer can not be doubted.

The matter of the report divides itself into two parts, one on wool, the other on the manufactures of wool. The former of these is distinctly more satisfactory than the latter. The passages on wool are well arranged, well put together, well indexed, well summarized. Those on woolens have much more the appearance of being thrown together with some haste,[1] and it is not easy to make out what the results finally come to. The less satisfactory character of the report as regards woolens is probably due to haste in preparation. It was long obvious that the administration desired to present to Congress a specimen of the kind of work which the Tariff Board was doing. There was pressure to have at least one important report ready early in the session of Congress, and the Tariff Board doubtless was called upon to show its hand before it was ready.

In the report on wool, as in all of the inquiries of the Tariff Board, costs of production in the United States and in foreign countries figure largely. The theory on which the board was set to work has been that "scientific" tariff revision should rest upon ascertained differences between cost in the United States and in foreign countries. An investigation of this sort, however, in the case of commodities of the extractive group, is beset by difficulties obvious enough to the economist. Costs vary according to the nature of the sources of supply. Some localities have advantages over others, some produce more cheaply than others. Which cost shall be taken as decisive or representative, the highest or lowest? In the case of wool this difficulty is increased by further complications. Wool is a joint product with mutton, and wool and mutton together are often joint products of general farming. How disentangle a separate cost of wool?

The mode in which the Tariff Board has grappled with the problem is instructive, and it seems to me to have been well chosen. "Cost" of wool is reckoned by first ascertaining the total flock cost—that is, the expenses directly incurred by the farmer for his sheep in the way of food, care, shelter. The Tariff Board has wisely disregarded the land in reckoning this cost. In the statements presented at hearings before congressional committees interest on the value of the land is usually reckoned, not only with regard to wool but with regard to wheat and other staples, as part of the cost of production of agricultural produce. Whether or not influenced by considerations of

[1] There are in the last volume, for example, over 100 continuous pages of statistics on the efficiency of weavers, which are nothing more than raw material on which a report might be based.

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economic theory, the Tariff Board has thrown out this item without stopping to consider niceties about the significance of rent on land. The direct cost alone is considered. From this direct cost there are deducted all receipts from other sources than wool—that is, mainly the mutton receipts. The difference is then taken to represent the separate cost of the wool.[1]

The cost of wool thus ascertained shows extraordinary divergences in different parts of the United States. Three great regions are distinguished, and for these the following general results are stated:

	Number of sheep.	Cost of wool.
		Cents.
1. The region of general farming, extending from the Missouri River eastward over almost the whole of the country	10,000,000	.....
2. The territory or range region	35,000,000	11
3. Ohio region	5,000,000	19

These figures of "cost," as the board emphasizes, are of a very rough sort, indicating the general situation in the several regions. They are averages. Within each region there are great differences. Even if these be neglected, the general figures indicate how extraordinarily diverse are the conditions in different parts of the country.

In the first region, that of "general farming," the conclusion that the cost of wool is nil means simply that the direct expenses of farmers on account of their sheep are met usually by the receipts from mutton. Sheep are kept in small numbers on each farm; their keep costs very little; they are almost always crossbreds—that is, of the breeds yielding good lamb and mutton. Even what the farmer gets from the mutton is usually so much net gain. Certainly what he gets for the wool can not be said to have cost him anything. In other words, in this region sheep raising and woolgrowing would be maintained irrespective of any duty upon wool. Abolition of the duty would mean, at the most, that even more attention than at present would be given to the mutton-yielding breeds of sheep.

In the territory region, where much the largest part of the woolgrowing takes place, the situation is different. Within that region there are again greatly varying conditions. The Tariff Board divides it into three subregions: A southwestern district, including Texas, Arizona, New Mexico, and the like; a California district; and a northwestern district, including Idaho, Washington, Oregon, and the rest of the Northwestern States. These three districts, however, can be reduced to two; the southern part of California is similar to the first of them, the northern to the third. In the first the conditions seem to have much similarity to those in Australia. The climate is mild; no winter shelter is needed. The meager precipitation, which imposes an obstacle to cattle raising, presents none so serious to sheep growing. The sheep are mostly of merino breed, hardy and easily herded. They are kept chiefly for wool. Doubtless cost of production is lower here than in any part of the United States and very likely as low as in competing foreign countries. In the Northwest, on the other hand, the climatic factors influence both the expense of

[1] The reader interested in economic theory may compare the procedure with that suggested by Prof. Marshall in his Principles of Economics, Bk. V, ch. 6, sec. 4, note 2 (p. 388, 6th ed.).

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woolgrowing and the character of the flocks. More winter shelter is needed and more harvested crops. There is a tendency to crossbreds, and mutton is looked to for a considerable part of the revenue, either directly or by the sale of sheep for fattening in the corn-growing region. Harvested crops are resorted to in considerable degree.

Not less important is the circumstance that wherever settled agriculture is possible, either from sufficient local precipitation or through irrigation, farming treads on the heels of woolgrowing. This phenomenon, constant in the economic history of the United States, is now unmistakably to be seen in the West and Northwest. In Texas the number of sheep has declined as the eastern part of the State has been settled by farmers. The same has been the case in those parts of California which have been put under the plow or converted into orchards. It is certain that Washington and Oregon will not long remain important ranching States. Throughout Idaho, Montana, and Wyoming, wherever irrigation or dry farming are possible, the flocks of sheep will pass away. Only in those regions which because of their limited water supply are necessarily pastoral will ranching maintain itself. And even in these cattle are likely to be more profitable than sheep. This general tendency is showing itself in a steadily increasing "cost of production" for sheep and wool, and it brings it about that within this region itself there are differences in the facilities and profitableness of sheep raising as great as those in widely separated parts of the United States.

Finally, in third and smallest region of all, we find the highest cost and the most peculiar conditions of production. In eastern Ohio and in near-lying parts of Pennsylvania and West Virginia, and in some parts of Michigan there is a sort of enclave in which sheep raising seems to be carried on with an approach to obstinacy. Industrially of little consequence it has been politically of surprising influence, for it long contributed more than any other section of the country toward the maintenance of wool duties and so of the general protective system. Here large flocks of merino sheep are kept by Ohio farmers on land that is hilly, easily eroded, and not adaptable to the agricultural methods common in the Mississippi Valley. It is true that in some parts of this region the farmers have turned their attention to mutton breeds of sheep and therein have found profit in the same way as other farmers of the central region. But it is not difficult to read between the lines in the board's noncommittal pages that there is some stolid persistence in old practices, perhaps also some insuperable difficulty in the way of using the land otherwise.[1] At all events, here we find the highest cost of wool, and on that basis the greatest need for protection.

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[1] I quote some passages referring to the "Upper Ohio Valley region":

"Some farms produce lambs that are sold fat after feeding them a greater or less time in the fall and winter. A flock managed in this way returns usually a good amount from its lamb sales, so much that the charge against wool is often entirely met. On such a farm the wool is not considered the chief source of income. Much as in England it is a side product—more important, proportionally, than in England; yet from the fat lambs comes the greater return. It is rare that sheep farms managed skillfully on this system do not show some profit. The question may be asked, Why, then, do not all of the sheep breeders of the Ohio Valley and Michigan follow this system? The answer is that on hill farms especially it is not easy to grow the corn necessary to fatten lambs. Then, the owners of many flocks have not yet learned to adapt their systems of agriculture to this practice; they have long been accustomed to looking to wool for their chief profit from sheep breeding" (p. 548).

"From the foregoing it seems important for the sheep farmers of the hill regions of Ohio, Pennsylvania, and West Virginia to seek wherever possible to produce fat lambs as an effective means of abating their wool costs. There are, however, certain difficulties, some of them serious, in the way. In much of the region in question the plow is of little use. The hillsides are too steep for cultivation. The land readily erodes, and there is never a surplus of corn nor even always a sufficiency of hay. Before growers here can adopt new methods they must buy corn, and this often at high prices, and as they are not accustomed to speculation this would not appeal to them" (p. 550).

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Such are the facts stated. What light now do the results of the whole investigation throw on the expediency of maintaining the duty on wool or on the rate of duty which should be levied, if one is to be maintained? I confess that the situation seems to be in no sensible degree cleared up for the legislator. So far as the general expediency of the duty on wool is concerned, he must still reach his conclusion upon general principles. If he thinks that there is something precious in the domestic wool supply and something portentous in a considerable increase of imports, he must still be in favor of retaining a considerable duty. If he has any such beliefs as are embodied in the young industries argument—if he thinks a duty should be maintained only if it will lead eventually to supply of the entire domestic consumption by domestic producers, at prices not higher than those in foreign countries—then he must give up once for all any hope of attaining the desired end as regards wool. It is proved to the hilt that the possibility of extending the domestic supply, outside of the region of general farming, is negligible. Sheep raising in large herds is certain to become less rather than greater. The retention or increase of the duty may conceivably aid in maintaining the supply at its present figure, but it can bring about no considerable increase. All this, however, was known before. The report simply confirms the conclusion already reached by well-informed inquiries.[1]

For myself, everything I read in the report strengthens the conviction which I have long held and declared, that there is no good ground for maintaining a duty upon wool. But that conclusion rests upon general reasoning with regard to the working of international trade and of protective duties, which may indeed find illustration in the working of our wool duties, but which is neither reached nor confirmed by all such labored investigation. The strength of the wool duty lies not in economic reasoning, but in the inevitable wish of every industry in every part of the country to get its share of what seem to be the benefits of protection. It is absurd for the wheat growers to protest against the abolition of a wheat duty which is of absolutely no consequence to them. But all the current talk about protection makes them think that they are losing their "share" in the benefits. Even more strongly the wool growers feel that they are entitled to their "share" of the benefits of protection. Under such circumstances the investigation of the Tariff Board supplies ammunition for either party, but will not enable either to rout the other.

Again, supposing that there is to be a duty on wool, what rate shall be imposed? Shall it be a rate sufficient to protect the obstinate grower of merino wool, or the grower of the Southwest, or the waning pastoral industry of the Northwest? I know no ground upon which one or the other of these costs of production should be accepted as decisive. Here, as elsewhere, if you give a duty high enough to equalize the cost of production for the producer having greatest expense, you give more than enough for the one who has less expense. If you give a duty sufficient only for the producer whose expense is least, you reach a free-wool basis, and at all events sacrifice some of the producers less advantageously situated.

[1] It has been proved, for example, beyond question in the pages of Prof. Wright's Wool Growing and the Tariff.

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There remains one subject, however, on which the board's report states less uncertain conclusions—the mode in which a duty upon wool, if levied at all, should be assessed. The board recommends unqualifiedly that any duty should be reckoned hereafter upon the scoured content of the wool. As everyone who has dealt with the subject knows, raw wool varies immensely as regards the impurities which it contains. Some wool loses three-fourths or four-fifths of its weight in scouring and in preparation for manufacture. Other wool loses but one-fifth or one-fourth of its weight.

The present specific duty of 11 cents a pound upon raw wool necessarily bears more heavily on that which shrinks most in scouring and loses most in manufacture; and it has proved virtually prohibitive of the importation of some grades of wool, especially those which come from the Argentine region. This anomaly has long been recognized; the only question has been on the best mode of readjustment. One remedy is to impose the duty upon an ad valorem basis, the other is to impose it according to the quantity of scoured wool contained in the fleece. Space lacks for entering on a detailed consideration of the merits of these propositions. The scoured basis seems to be not impossible of reasonably accurate application, but is open to the objection that, like any specific duty, it bears with greater relative weight on coarse wools than on fine wools. The ad valorem method avoids this difficulty, but is open to objections of its own. Undervaluation is always tempted and is always hard to control, and a duty by value tends to exaggerate the fluctuations in domestic market prices. Yet it is to be said that both these difficulties become less in proportion as the ad valorem rate is lower; they would be serious with a rate as high as 50 per cent (roughly the equivalent of the present duty), but negligible with one of 10 per cent. The Tariff Board's recommendation of the second method—a duty on scoured basis—bears every evidence of having been reached after careful and unbiased consideration. Either method would be better than the present. But there is only one plan which gets rid of the objections—the good and simple plan of admitting wool free once for all.

With regard to woolens the situation is in one important respect essentially different. Here there would seem to be no inherent difficulty in making comparisons of cost of production. Manufacturing industries we do not usually think of as subject to conditions of varying cost. Is it not possible to ascertain with reasonable accuracy the difference between cost of production of woolens within the country and without the country?

To this suggestion it has often been answered that we find in manufactures differences of cost no less great than in the extractive industries. Cost is not uniform within a country, any more than it is uniform between countries. Some establishments in the United States produce more cheaply than others; do we not encounter here, as with regard to wool, the difficulty of ascertaining which cost of production is to be decisive in regulating tariff rates? The difficulty seems to me not insuperable; yet the method by which it might be most successfully met has not been followed, at least with any consistency, in the Tariff Board's report. To remove it, resort must be made to something like Prof. Marshall's device of the "representative firm." Though there be differences in facilities between different

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establishments in the United States, it is not unreasonable to disregard both those managed with unusual ability and those negligible because backward or still in the early and experimental stage. The device calls, no doubt, for some artificialization of the data; the construction of an imaginary establishment, not perhaps corresponding precisely to any specific business, yet fairly to be regarded as indicative of the normal conditions of the trade. The Tariff Board, however, has not chosen to adopt any method of this kind. Its pages are full of detailed statements of cost, chiefly for establishments in the United States, but for some establishments in European countries also. Yet these inquiries seem never to be brought to a form in which direct and complete comparison is possible, or in which clear-cut results are stated. Possibly this may be due to the fact, already referred to, that the publication of the board's report was called for before its work had been carried to the final stages. Possibly it may be due to a hesitancy on the board's part in presenting anything but specific concrete facts. No doubt there would have been severe criticism of hypothetical or generalized figures. No doubt also such figures could indicate only the general trend of the differences between countries. But approximate solutions on matters of this kind are the only ones obtainable. I can not but believe that legislation on the lines expected from the Tariff Board's report would have been facilitated by statements which, though representative and therefore approximate, were in simple and summary form.

At all events the legislator who is endeavoring to apply the cost of production theory to the revision of the duties on woolens will find it necessary to do much digging of his own into the voluminous pages of the Tariff Board's report. He will find abundant proof that the duties as they stand now are not fixed on the basis of differences in cost of production with any approach to accuracy. But just what duties would conform to these differences, he will not find it easy to make out.

On one important topic, however, a perfectly clear result is reached. It is established beyond question that the compensating system is completely out of gear. In this result I take some personal satisfaction. I have maintained for years that it has been incorrect and in need of complete overhauling. Persons like myself, when making statements of this sort, have been dubbed theorists, ignorant of the actual working of the system. The system itself has been lauded as perfect by those who may be presumed to be most fully conversant with it.[1] The board's report, however, makes it clear that the compensating duties much more than compensate. Those who have maintained that, in the guise of compensation for the wool duty, the rates on woolens have been higher than they purported to be, find full support. Those who have indorsed the compensating system as it stands and have protested against even the slightest change in it, surely have followed a mistaken policy. It is inevitable that suspicion should attach to the utterances of persons who have persistently contended that things were true which are now proved not to

[1] As late as February, 1911, the president of the American Woolen Co. in a public speech maintained that "Schedule K, much maligned, much misunderstood, if properly understood would be the most appreciated of any schedule in the tariff; and if all schedules in the tariff were as scientifically based and as well poised and balanced as Schedule K, it would be the most remarkable document, next to the Constitution of the United States, that the human mind has ever produced."

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be true. No doubt the fear of the wool growers and manufacturers that even the slightest change in Schedule K might precipitate the complete collapse of the system, explains their insistence that it was without flaw. None the less, in view of the present unanswerable demonstration that the system needs thorough overhauling, their attitude must be judged to have been impolitic.

On some other subjects, also, the Tariff Board reaches conclusions that are clear-cut. It establishes the fact that at least in some branches of woolen manufacturing, efficiency is low and cost of production is high in the American mills. Possibly the deficiencies of the American establishments are exaggerated. As one reads these parts of the document a suspicion arises of an endeavor to make the case strong in favor of the maintenance of high duties. An obvious and sometimes amusing consequence of the protectionist doctrine about cost of production is that a domestic producer is thought to be entitled to higher protection according as his operations are conducted to greatest disadvantage. If his machinery is not of the best, or his operatives are clumsy, or his mill badly located, his cost of production of course becomes high; and on that ground he is entitled to ask for higher duties. There are repeated passages in the report dealing with the disadvantages of the American woolen manufacturer because of his more expensive machinery or his less efficient labor supply. I do not recall a passage in which attention was called to any advantages. Possibly there are none—not a solitary point of superiority; possibly the American manufacturer is compelled to operate at higher expense in every direction. Yet, to repeat, one is led to suspect that his difficulties are exaggerated, or that he has himself exaggerated them in his dealings with the Tariff Board, in order to supply arguments for the maintenance of existing duties.

Certain it is that the description is one which puts weapons in the hands of those who scoff at the cost-of-production principle. It is repeatedly stated, for example, that the working force in the American mills is ineffective. Operatives in foreign countries are said to be more intelligent, better trained, more steady at their work. The newly arrived immigrants who throng the American mills are declared to be poor factory hands. The question may fairly be asked, Why, then, induce them to enter this occupation? Is it to the country's advantage that an Italian or a Greek should be brought over here to work for us at $8 or $10 a week, when a German or a Frenchman is willing to do the same work for us in his native country at $5 or $6? Or to put the same sort of question in another form, Would all wages in the United States be higher, and would this really be a prosperous country, if our manufacturing establishments and our agriculture throughout were carried on by ignorant and inefficient workmen, equipped with tools and machines no better than those of foreign countries?

So far as machinery is concerned, the extent to which the American worsted manufacturers are dependent upon imported machinery is surprising. The continued resort to foreign machinery always raises a suspicion of inferiority in technical methods. Machinery is almost sure to be installed better and operated better in the country where it is made. A country which depends upon imported appliances thereby confesses to not being in the van of industrial progress. Such is the case with the European countries when they import

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American shoemaking machinery. Such is the case with continental Europe when it imports English machinery for spinning fine cottons. Such seems to be the case in the worsted mills in the United States with regard to the worsted processes. The report states that in our worsted mills 80 per cent of the machinery used for the processes from scouring to the finished yarn (not goods) is imported. The figures are even more striking with some particular kinds of machinery. The so-called French combs (the continental system) are imported in toto; so are the worsted spinning machines and some of the drawing frames. Of the Bradford frames 90 per cent are imported. There is a striking difference between these figures and those for other kinds of machinery. Over three-fourths of the looms are of domestic make, not of foreign make. It is an interesting feature of industrial development in the United States that weaving machinery has always been made chiefly here, and apparently has been worked to better advantage. In all the textile industries—cottons and silks even more strikingly than woolens—looms are chiefly of American make; and they are at least as good as foreign looms, often better. Practically all the carding machines used in the wool manufacture are domestic; so are the spinning machines used for carded wool. To repeat, it is in the characteristic branches of the worsted industry that the dependence upon foreign machinery is most striking; and here also most is said of the inferiority of the operatives.

Precisely the same question of principle presents itself here as with regard to the cost of production of wool. Are disadvantages of the American manufacturer a reason for supporting him with high duties, or are they a reason for regretting that he has been supported by duties at all? The answer can not be given by the most labored investigation. It raises a fundamental question about which the legislator has to make up his mind by reasoning which the data of the Tariff Board may illustrate, but on which they can prove nothing. No doubt that question can not be settled by any legislation now within the bounds of possibility. There are even goods grounds for contending that it is a question not pertinent at the present juncture, for it is the fundamental question between protection and free trade. What now concerns the country is the much simpler controversy between more protection and less; between the present tariff, with all its extremes, and a pruned and moderated system. Even protectionists admit that duties should not be more than suffices to offset differences in cost; even free traders admit (or many of them do) that regard must be had to the vested interests of those who have been encouraged to embark in industries that labor under disadvantages. Hence, it is not inconsistent to admit the value of the Tariff Board's work, even though rejecting the principle of "scientific" revision which led to the board's establishment. Possibly this report might have promoted revision with better effect if more time had been allowed for preparation; perhaps, also, if more courage had been shown in summarizing and emphasizing the results. But none the less it does promote a much-needed readjustment.

For the economist, the pages of the report teem with facts and illustrations that bear upon other subjects than tariff legislation. Instructive figures are given showing how the final expense of a suit of clothes is made up—what part is assignable to the raw material,

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what part to the factory, what to the manufacture of the clothing, what to retail trading expenses. In the comparisons between different establishments in the United States illustrations will be found, not only of differences in cost of production, but of other phenomena, such as of the influence of internal and external economies. In the descriptions of the labor force and in the letters of manufacturers on the efficiency of weavers there are striking illustrations of the principle of comparative cost and of the changes in industrial quality between immigrants of the first generation and their descendants of later generations. Economists will long find in these volumes a mine of information and will be grateful for them when the political squabbles which now turn on them have been forgotten.

F. W. TAUSSIG,
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62D CONGRESS, 2d Session } HOUSE OF REPRESENTATIVES { DOCUMENT No. 865

THE HIGHER COST OF LIVING AND ITS RELATION TO TRANSPORTATION

ADDRESS

BY

JOSEPH H. CALL

BEFORE THE WOMEN'S FRIDAY MORNING CLUB
AT LOS ANGELES, MAY 3, 1912

JULY 6, 1912.—Ordered to be printed

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THE HIGHER COST OF LIVING AND ITS RELATION TO TRANSPORTATION.

By Joseph H. Call.

Madam President and members of the Friday Morning Club and fellow citizens, we have reached a period in our Government when we realize that the cost of living is increasing beyond our ability to pay, and yet we are loath to change our policies and our laws.

While our Constitution was planned in the interest of all the people, many of the powers which were given to the Government have been passed to private interests that were not in existence or in contemplation when the Constitution was formed.

The cause of the increased cost of living can be easily traced to the abnegation by the Government of many of its powers to private corporations, which have become monopolies. The remedy is for Congress to resume the power to regulate commerce in all its functions, the power to coin money and regulate the currency, the power to establish post roads.

You will remember that when the Constitution of the United States was formed, the people of this country occupied only a part of the Atlantic shore, comprising a population of about 3,000,000, and the people at that time were not engaged in manufacturing—they were engaged in farming and in fisheries. We had no manufactories to mention.

After the Declaration of Independence our people first established the Articles of Confederation. Those articles, adopted in 1777, were in force for 10 years, but were found to be defective because of the lack of power in the Government to collect taxes and to establish courts, and what is more important than all, there was no power to regulate commerce. In my opinion the most radical change made between the articles and the Constitution of the United States, under which we now are operating, was in the great power bestowed on Congress to regulate interstate and foreign commerce. That power was not conferred by the Articles of Confederation, and that was one of the chief reasons for our adopting the present Constitution of the United States. Another important power conferred on Congress under the Constitution, not conferred by the Articles of Confederation, was the power to establish post roads. Under the Articles of Confederation, Congress had power to establish and maintain post offices between different points in the United States, but had no power to establish and maintain post roads, which is a matter that is most important to the people of the United States.

Benjamin Franklin, who took a most active part in the formation of the Constitution of the United States, and who resided in France

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during the Revolution, saw that the French Government, under the reigns of Louis XIV and XV, had a more perfect system of post roads than any nation of the world, these roads reaching to all parts of the country, and between all towns and cities, carrying in coaches passengers and freight.

In all essential respects the post-roads system of France was the same as the great railroad system of this country to-day, excepting that the power in France was supplied by horses and in this country it is supplied by steam, and cars are operated over rails.

The power given to Congress to establish "post roads" was and is really the power to establish a system of transportation.

I speak of these powers, as they are necessary to be considered in understanding the questions which we now have under discussion. Those powers being given to Congress to establish post roads and to regulate commerce, it was supposed that the Government would exercise them directly, but such was not to be the case. Instead of the Government establishing post roads and opening the great waterways of the country, those powers, as I say, have been turned over to private corporations. Theoretically, under our system of laws, the idea was that there would be competition between different roads, that one corporation would compete with another, and by this course competition would regulate the price of transportation. But this was not to be so. All of the transportation companies have combined and are to-day exercising the powers given to Congress to regulate transportation and commerce and to maintain post roads. This great monopoly has been built up by a system of laws.

As early as 1817, nearly 100 years ago, Congress passed the navigation laws, which laws require that all freight and passengers shall be carried on American-built ships—ships carrying the American flag and subject to American registry and provided that the ships in this country, to carry on commerce, must be manufactured at home, and prohibited foreign ships from engaging in the coastwise carrying trade. At the time of the formation of the Constitution of the United States, and for a generation thereafter, there were no railroads in the United States. Since the adoption of the Constitution we have grown from one of the smallest nations to the greatest, we own one-third of the wealth of the world, we have one-third of the energy and power of the world, we produce one-third of the surplus crops of the world, we produce a third of the coal and iron, and have half of the railroads, so that from being a small nation we have become the very greatest, and yet there are no changes in our system of laws adapted to present conditions. In order to protect our manufacturing industries we have levied duties on imports so that no manufactured goods can come into this country without paying duties. The theory was that it would upbuild American interests, and it did have that result. It built up our industries more and more and we have become one of the greatest manufacturing nations of the earth. We not only supply our own needs, but send vast quantities of our products to foreign nations.

Instead of Congress establishing post roads and managing them, that power was turned over to private corporations to regulate, and by means of the tariff acts and navigation laws the carriers have formed a gigantic monopoly.

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The first act of Congress to regulate railroads was in 1887, which established the Interstate Commerce Commission and conferred certain powers on that commission to regulate rates. It was supposed when that act was passed that a great step had been taken; it was believed that power to restrict changes in rail rates had been given which could be enforced. The people labored under this delusion from 1887 for about 10 years and until the United States Supreme Court decided that the Interstate Commerce Commission had no power to fix or regulate rates and no power to execute its own orders, and that as they construed the act those powers were never conferred or intended to be conferred.

Under the act of 1887 and under present laws, the railroads are required to file their tariffs of rates with the Interstate Commerce Commission. It was not contemplated that all the roads should join together in making and filing these tariffs, but that is exactly what they did, and for a long time now transportation rates have been fixed by a combination of railroads, and the courts have approved these combination tariffs. The railroad tariff is composed of a dozen books each about the size of a telephone directory and contains the names of about 400 operating railroad companies, all of which join together in making the rates.

The great Harriman system owns and controls all the principal roads south of Portland and west of the Missouri River. The Hill-Morgan system controls all of the roads north of Portland and reaching nearly to Chicago, and all the railroads are now held under a unity of control and stock ownership. They always make their rates in common and the only question with them is how high they can make them.

While in the service of the Government as special counsel during a period of 18 years, I found that the average time taken to try out rate cases was 7 years. One case which I now recall was 10 years in litigation, and when it came before the United States Supreme Court, they held that the order of the commission and circuit court was without error and that the court of appeals had made no error, but reversed the judgment, saying that so long a time had elapsed since the controversy arose that it could not be assumed that rates made 10 years ago were reasonable now, and so reversed the case by reason of the time alone in disposing of it.

There are very few cases on record in which rates were actually reduced. All rail rates in the country are from time to time advanced by the roads, while the time of the commission and Commerce Court is consumed by particular attacks upon specific commodities. It takes years for the commission and courts to unfix what the carriers fix in a moment.

The interstate-commerce acts passed by Congress have been carefully and ingeniously drawn by railroad attorneys in the interest of the railways, especially the Cullom Act of 1887, the Elkins Act, and the Hepburn Act. The only amendments to those acts which in any way benefit the public are those introduced on the floor of the Senate by my friend Senator La Follette—supported by genuine progressives and a Democratic House.

The railroads have been greatly aided by Congress, because of laws enacted making it impossible to secure foreign ships to carry freight between American ports and it being impossible under the laws for Americans to acquire and register foreign-built ships.

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The Pacific coastwise carrying trade is in the hands of the Harriman system, which owns ship lines on the coast, excepting the Hawaiian Steamship Co., but whenever the rates of the Southern Pacific are advanced, the rates of the Hawaiian Co. are automatically advanced, the scheme being that the water rates shall be a certain percentage of the rail rates.

The rates from coast to coast by rail average from $25 to $30 per ton. You do not fully realize what it means when I say that you pay from $25 to $30 per ton by rail. The rates on grain from San Francisco to Liverpool, 16,000 miles, in foreign ships, is under $4 per ton. That has been the rate for a good many years.

Freight is carried in foreign ships from New York to Liverpool, 3,000 miles, for under $1 per ton. From Duluth to Buffalo, about 900 miles, the charge is under $1 per ton and has been down to 60 cents per ton. The rail rate between the same points is about $10 per ton. Now, you will see from this that water rates as compared to rail rates for similar distance are less than one-tenth what the rail rates are and in many cases the water charge is as low as one-twentieth the rail rate. The only competition the railroads meet under present laws is from goods shipped from abroad, there being no competition between railroads and no competing water coastwise commerce.

The railroads in fixing their charges proceed in this manner: They hold meetings regularly in Chicago. They take some specific article and consider if the rate can be increased on it. What I mean is this: They determine what those goods can be brought to this country for, including the duties levied by the United States. Say a given article can be brought into the United States for $5 per ton and the water rate is so much—add the two together and you have the rail rate. You will find that the coast-to-coast rates and water-to-water rates, which are called terminal rates, are based upon the import duty on that article plus the water rate from abroad. You can determine what the railroad terminal rate will be on any article by simply adding to the import duty the cost of bringing that article from foreign ports.

Coal can be brought from foreign ports and landed at San Pedro or at San Francisco for $7 per ton. That is the cost of transportation from abroad and the import duty. The railroad rate on coal from the mines over in Colorado or in New Mexico is therefore $7 per ton. Take Portland cement—the import duty and terminal charge is $2.60 and $5 from abroad for foreign freight; the railroads charge $7 per ton. Take pig iron—duty and terminal charge is $3.50, foreign freight rate is $5, total $8.50 a ton; the railroads charge $8 per ton. The duty on steel averages about $13 per ton, with a foreign freight rate of $5; the railroads of course charge from $17 to $18 per ton from eastern terminals. The water rate on oranges from abroad is about $3 per ton to eastern cities and the duty is $20 a ton; the railroads naturally charge $23 per ton. The rates on dry goods, autos, and machinery are much higher, and run from 30 to 60 per cent ad valorem, so you will find the railroads charging for cotton goods about $40 per ton, on dry goods over $60 per ton, and on autos and machinery $60 per ton and upward.

It would not, of course, occur to an ordinary person without some thought just why you find a railroad carrying freight over the same road, the same distance, in the same cars, and by the same engine,

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and yet charging for different commodities rates ranging from $7 per ton to $60 per ton. Nevertheless on different goods in the same car rates range from $7 to $60 per ton and upward. It is because the railroads have been given the power to make their own rates, based upon watered capitalization and backed up by a system of laws by which they can pool their rates, suppress or control water competition, and maintain an exorbitantly high import duty against foreign goods.

The reports of the State of Wisconsin show that the physical value of the railroads is less than one-half of what they are capitalized for. Reports of other States show the same thing existing. Testimony taken in courts shows that the railroads could be duplicated throughout the United States for less than one-half of what they are now capitalized for, and yet railroad capitalization is the basis in our courts for a determination as to the reasonableness of rates. If you had an effective railroad rate law and attempted to reduce the railroad rates, the railroads would immediately contest that attempt on the ground that the rates fixed by the State or Government were unreasonable and that such law was confiscatory and operated to deprive them of their property without due process of law in violation of the Federal Constitution.

The capitalization of the railroads enormously increased during the two terms of Mr. Roosevelt as President, and he always said that it was not too high. He permitted and encouraged the capitalization of the railroads to increase $7,000,000,000 under his administration as President. This is really a debt against the American people of $7,000,000,000. The railroad capitalization in 12 years has nearly doubled and now amounts to about $20,000,000,000. Of this over $10,000,000,000 is water.

The gross earnings of the 240,000 miles of railroads in the United States for the current year will exceed $3,000,000,000, amounting to over $33 to the person and over $160 per family in the United States.

The net earnings of the Southern Pacific and Santa Fe systems per mile of road are much more than that of all the roads in the United States on an average.

The gross charge for railroad transportation in California exceeds $200 per family per year.

The act of Congress called the antitrust act, commonly known as the Sherman Act, prohibits railroads from combining together to monopolize commerce and restrain trade; but every prosecution of railroads and great trusts under this act has really resulted in validating the trusts and has been against the public—such as the Northern Securities case, the Harriman merger case, the Tobacco case, the Sugar case, and the Standard Oil case—and after the decisions in those cases, which the public thought were in their favor, there was a tremendous advance of the stocks of those corporations on the market in New York.

Railways are not only bulwarked by the navigation laws, by tariff acts, and interstate commerce acts, but they have suppressed water competition and have prevented improvement of harbors and waterways. They have prevented deepening of Erie Canal and canal from Chicago to the Mississippi for 25 years, and have generally secured control of dockage on the principal harbors, excluding competitive business.

Similar conditions existed in Germany a few years ago and still exist in England and in the United States.

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Germany is foremost in the improvement of her canals and waterways and in the improvement of her docks. Bismarck in the Reichstag declared that the German Government would no longer permit her highways of commerce and transportation to be controlled by monopolies. It was Bismarck who demanded that the National Government of Germany should acquire and take over the principal lines of railway and should open the waterways. Under Bismarck's national policy Germany has been so canalized that there is not a city that can not be reached by water transportation and so that now two-thirds of the entire freight of Germany moves by water and less than one-third by rail. An average of all rates, rail and water, shows they are less than a third as high in Germany as in the United States.

In this country our people for many years endeavored to build a canal across the Isthmus, but the Senate demanded that the canal be built at Panama and the House wanted it at Nicaragua, claiming that it could be built there for one-fourth of what it would cost at Panama and that it was 1,000 miles closer to the United States. All the Senators and Members were enthusiastically in favor of a canal at election time. The House finally passed a bill providing that the canal be built at Nicaragua and submitted it to the Senate. The Senate sent the bill back, demanding that the canal be built at Panama, the idea being that by differing on location of the canal the House would not agree to the canal being built at any other place than at Nicaragua. This was not the case, however, for when the bill came back to the House it agreed to the Senate amendment, and we now have the canal located at Panama and nearly completed as the result of an accident in legislation.

Canada, a very enterprising country, has deepened the St. Lawrence River, has built the Welland Canal, and all American ships have to pass through a foreign canal between the Great Lakes and the Atlantic. Our own Erie Canal has become useless. Some 10 years ago an immense bond issue was voted by New York State to rebuild the canal from Buffalo to the Hudson, but you will understand the work has been tied up when I tell you it is progressing about the same rate as building the municipal harbor of Los Angeles.

Why do the railroads prevent that canal from being built? Because they charge $10 per ton, where if the canal was built the charge by water would be only $1 to $2 a ton.

LOS ANGELES HARBOR.

It is about 4,700 miles from Los Angeles to New York by Panama and 15,000 miles by Magellan Straits. We pay over $25 per ton to the railroads for the through haul. Freight is being carried for less than $4 per ton from foreign ports a greater distance. Supposing it was $4 per ton, or even $5 per ton, the saving to us would be over $20 per ton. If we would ship our freight from New York to California through the Straits of Magellan at normal water rates there would be an enormous saving. It is a long haul, but is not longer than from San Francisco to Liverpool, where the rate is under $4 a ton.

The lack of public harbors and vessels for coastwise trade compels us to pay $20 a ton more for carrying our coast to coast freight than we should.

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If we would reduce the cost of living we must open our harbors, canals, and waterways to compete with the railroads, we must permit Americans to acquire foreign-built ships, and modify the coastwise-trade act to permit unconstrained and free transportation between our distant Atlantic and Pacific ports; we must reduce the tariff on all goods such as are manufactured by trusts and monopolies, because the tariff act not only builds up monopolies, but establishes the rail rates; and lastly, we should by act of Congress fix a tariff for rail rates just as we fix a tariff for imports. It is a duty of Congress long neglected to fix railroad rates, but also to construct and maintain public docks at every harbor and port.

I have long been of the opinion that we could not hope to regulate railroad charges without securing water competition. We have a good harbor in Los Angeles. I lent my services to secure that harbor by working for the charter amendments and consolidation of Los Angeles with San Pedro.

Three years ago we gained control of the harbor—the inner and outer harbor—and control and ownership of the tidelands with the right to construct docks and wharves and warehouses and connecting highways. That was three years ago this coming August, and Los Angeles city then got 100,000 feet of frontage available for dockage on the outer harbor of San Pedro, protected by the Government breakwater, which the city still owns. The title is not questioned by anyone. During those three years not one dollar has been spent by the city to construct docks upon the outer harbor, and plans for docks have not even been adopted. No connecting street or highway has been built.

According to daily newspaper announcements for three years, the city is just about to build docks or highways or improve the deep-sea harbor. Those press announcements have been repeated for three years.

I repeat that the city has owned that magnificent harbor for nearly three years, and yet has not spent one dollar toward building a municipal railroad or toward building docks and wharves at the harbor which can compete with the railroad monopoly.

The first thing that we in Los Angeles ought to do is to devise a scheme for opening the harbor and building docks and wharves and build a road to connect the harbor with the business district.

Gross incompetency merging on imbecility has marked the conduct and policy of the Los Angeles city government for the past three years and no relief is yet in sight.

The city of Los Angeles has been given control of this great harbor to hold as a sacred trust for all the people. She holds it for all southern California, for the whole State, for Arizona, Nevada, New Mexico, and for the people of all the States. She has violated her sacred trust by holding the harbor under railroad domination and by neglecting to improve her tens of thousands of feet of water front by construoting public and municipal docks. If this policy of "dog in the manger" is carried on much longer, this trust will be taken from her by the State and United States and a harbor board will be established instead.

The people of the back country in and out of the State will demand this as a right and no legitimate answer will or can be made to the demand.

I thank you for your kind attention.

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62D CONGRESS, 2d Session } HOUSE OF REPRESENTATIVES { DOCUMENT No. 866

ALABAMA INDIANS OF TEXAS

REPORT OF WILLIAM LOKER

AND

LETTERS TO THE INDIAN DEPARTMENT

RELATIVE TO THE

ALABAMA INDIANS OF TEXAS

JULY 6, 1912.—Ordered to be printed

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ALABAMA INDIANS OF TEXAS.

DEPARTMENT OF THE INTERIOR,
Washington, May 1, 1912.

Hon. JOHN H. STEPHENS,
Chairman Committee on Indian Affairs,
House of Representatives.

SIR: I have the honor to acknowledge the receipt of your letter of April 18, 1912, regarding the Alabama Indians in Texas, wherein you suggest that this department submit to the Senate Committee on Indian Affairs an estimate carrying an appropriation of $10,000 for the purpose of purchasing additional lands for these Indians adjacent to or as near as practicable to their present holdings. You transmit a letter addressed to you from Senator Culberson; three letters from J. C. Feagin, attorney at law, of Livingston, Tex., addressed to the Senator; a letter from this department to Mr. Culberson; and a clipping from the Polk County Enterprise regarding these Indians.

By reference to the former letter from this department to Senator Culberson regarding these Indians, it will be seen that the department is of the opinion that the members of this band are entitled to allotments on the public domain under the provisions of the act of February 8, 1887 (24 Stat. L., 388), as amended, or Indian homesteads under the provisions of the act of July 4, 1884 (23 Stat. L., 96), but that in order to procure such benefits it will necessitate these Indians leaving their present habitat in order to settle on the lands selected. The department also suggested to the Senator, on advice from the Indian Office, that that bureau was considering the inclusion in its estimates for the fiscal year 1914 an appropriation of $10,000 for the benefit of the Alabama Indians in Texas, to be expended by the Secretary of the Interior in such manner and for such purposes as may be deemed for their best interests.

This matter was merely under consideration, however, and no definite conclusions had been reached as to whether the appropriations suggested would be asked for. Again it may be pointed out that the objects of the appropriation, if submitted, would be not so much for the purpose of acquiring additional land for these Indians as, possibly, to offer them additional school facilities or education in agricultural or other industrial pursuits.

Former Special Agent Loker, who investigated the condition of these Indians, in accordance with an item found in the act of April 4, 1910 (36 Stat. L., 274), and whose report was submitted to the Congress by letter from this department dated December 23, 1910 (H. Doc. No. 1232, 61st Cong., 3d sess.), did not recommend that an appropriation of $10,000 be made for the purpose of purchasing additional lands for these Indians. The special agent did suggest, however,

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as his report will disclose (which was set up in full in the House document referred to), that these Indians do not pretend to have a claim of any sort against the Government; that their needs are (1) more land to cultivate and (2) a school with manual-training instruction. In his report it was also said that—

> The Indians have 1,280 acres, about 30 per cent of which is timber. They are cutting only what they require for construction and fuel. About 35 per cent is only sand and incapable of cultivation. The balance is cultivated. They raise cotton, sugar cane, potatoes, and garden truck and a little corn, although this is not a corn country. They raise ponies, goats, chickens, hogs, and a few cattle. They are doing just as well, all things considered, as the white men of this part of Texas. If they had about 5,000 acres of land, these Indians would successfully farm and raise stock in competition with the white people.

Even if made, an appropriation of $10,000 would not purchase any considerable quantity of desirable land, unless land values in Texas are extremely low. To provide 5,000 acres additional land for these Indians, even at as low a figure as $10 per acre, would require an appropriation of $50,000 or more. Ten thousand dollars would be wholly insufficient for the purposes suggested in your letter, and as these Indians do not claim to be entitled to anything from the Federal Government, the department doubts the advisability of suggesting or recommending, on its own responsibility, that an appropriation be made for the benefit of these Indians at this time. Should an appropriation of this character be made for the Alabama Indians in Texas, it might prove an entering wedge for similar appropriations in favor of other bands who, with equal insistence and equities, could knock at the doors of Congress for financial relief. The Catawba Indians in South Carolina and the Chittimache Indians in Louisiana occupy practically the same status as the Alabama Indians in Texas. Other instances could be cited. Up to the present time these Indians have looked solely to the State government for assistance, educational facilities, protection, and have claimed nothing from the Federal Government. Being a State problem, it is one over which the department would assume jurisdiction with reluctance, unless specific authority so to do was conferred on this department by the Congress.

By the act of April 4, 1910, supra, the Congress did authorize and direct this department to investigate the conditions of the Alabama Indians in Texas, and to submit a report thereon to the Congress at its next session. This was done, as the act required, and the full information regarding these Indians, in so far as the department had been able to ascertain, was laid before the Congress for its consideration. Should the Congress in its wisdom see fit to appropriate money with which to buy land or to furnish additional educational facilities for the Alabama Indians in Texas, this department would be pleased to carry such legislation into effect. However, it does not care of its own responsibility, at this time, to suggest an enlargement of the appropriations in the pending Indian bill by including therein an item for relief of this band of Indians.

The inclosures transmitted with your letter are returned herewith.

Respectfully,

SAMUEL ADAMS,
First Assitant Secretary.

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The Loker report mentioned in the above letter (H. Doc. No. 1232, 61st Cong., 3d sess.) is as follows:

ALABAMA INDIANS IN TEXAS.

DEPARTMENT OF THE INTERIOR,
Washington, December 23, 1910.

SIR: In accordance with the provision of the act of Congress of April 4, 1910 (36 Stat. L., 269, 274), which reads, "* * * and the Secretary of the Interior is hereby authorized and directed to investigate the conditions of the Alabama Indians in Texas and to submit his report thereon to Congress at the next session," I have the honor to submit the following report:

On October 15, 1910, William Loker was appointed commissioner to the Alabama Indians of Texas and instructed October 26 by the Commissioner of Indian Affairs to proceed to Livingston, the county seat of Polk County in that State, and to such other places as might be necessary to investigate fully the condition and needs of the Indians mentioned.

Mr. Loker was advised that these Indians were reported in the Federal census of 1890 as being located on Big Sandy Creek, Polk County, upon a tract of 1,280 acres given them by the State of Texas; that they were said also to be civilized and self-supporting; to have a chief and subordinate chiefs; to maintain to a great degree their Indian habits in dress and manners; and to cultivate lands like their white neighbors, for whom they worked on occasion. For his guidance the essential points to be reported upon were given as:

1. The population, including the number of children of school age.
2. The present condition of the Indians as regard subsistence and self-support.
3. Their condition as to clothing and their absolute needs for the winter.
4. What schools, if any, are available, and what is the disposition of the Indians toward sending their children to such schools.
5. The actual condition of the lands occupied by them, and whether they are exercising reasonable diligence in their farming operations; how they compare with their white neighbors in this respect; and what their needs are as regards additional lands for homes and farms.
6. The views of the leading Indians as to their needs, etc.

Mr. Loker's report of December 6, 1910, shows that these Indians, numbering 192 individuals, including men, women, and children, are located 17 miles east of Livingston upon a tract of 1,280 acres of land which the State of Texas, about 1850, deeded to them conditionally—free of taxes, but with restrictions on alienation.

The report of this official shows also that in two decades these Indians have made marked progress in civilization, and are now on about the same plane in this respect as are their white neighbors; that their old tribal customs have been abandoned; that they speak the English language almost entirely, and that they have adopted the manners and dress of the whites.

With respect to their present economic condition, the investigation shows that these thrifty and steady workers are now self-sustaining—more by outside labor on farms, in lumber camps, railroad construction, etc., than by farming the small amount of their available agricultural land. Also they are well clothed and are not in need of any assistance for the winter. They send their children of school age to

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the public school within their village, and the majority of them are members of the Presbyterian Church located in their midst.

These Indians are subject entirely to the laws of the State and county wherein they reside; they use very little intoxicating liquor, and are reported as being peaceable and law abiding.

About a third of their land, which is held in common, is said to be timbered; 35 per cent is of fair agricultural character, and the remainder of the land is sandy and not fitted for farming.

Their one-story houses, of their own construction, contain two or three rooms, and are fairly comfortable; they raise a small amount of stock, poultry, etc., and cut such timber from their lands as is absolutely needed for building and fuel purposes.

As shown, these Indians derive their greatest revenue from outside lumber industries, and as the supply of timber in that region is rapidly decreasing they must in the near future seek other means of support.

Commissioner Loker reports that while they say they have no claim against the Government, their needs are: (1) More land to cultivate, and (2) a school with manual-training instruction. He adds that if these Indians had about 5,000 acres of land they would be able to compete successfully with their white neighbors in farming and stock raising, and would be able to take care of themselves in the future.

A copy of the letter of instructions to Commissioner Loker and of his report are inclosed.

Very respectfully, R. A. BALLINGER,
Secretary.

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

DEPARTMENT OF THE INTERIOR,
OFFICE OF INDIAN AFFAIRS,
Washington, October 26, 1910.

SIR: Referring to your recent appointment as commissioner to the Alabama Indians in Texas, under the provisions of section 6 of the Indian appropriation act approved April 4, 1910 (36 Stat. L., 269, 274), which reads as follows, "* * * and the Secretary of the Interior is hereby authorized and directed to investigate the conditions of the Alabama Indians in Texas and to submit his report thereon to Congress at the next session," you are hereby directed to proceed to Livingston, the county seat of Polk County, Tex., and such other places as may be necessary, to investigate fully the conditions and needs of the Indians mentioned.

For your information there is transmitted herewith a memorandum and a copy of office letter of April 3, 1896, setting forth the full history of these Indians so far as known to the office.

In 1890 these Indians were reported in the Federal census as being located on Big Sandy Creek, Polk County, upon a tract of 1,280 acres given them by the State of Texas. They were said also to be civilized and self-supporting; to have a chief and subordinate chiefs; to maintain to a great degree their Indian habits in dress and manners; and to cultivate lands like their white neighbors, for whom they worked on occasion.

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By referring to the copy of office letter of April 3, 1896, it will be seen that the position then taken was in effect that these Indians had never held or possessed lands in their own right, or held any treaty relations with the Government, and that they had no claim upon the United States; also that the legislation then proposed in their behalf by which they were to be given 25,000 acres of land to be located on the public domain was reported upon adversely.

Most if not all of these Indians are located in Polk County, and by going to Livingston you will be able to ascertain their exact location and also to acquaint yourself with the views of the local authorities regarding them. You will thus be better able to form some definite plan to be carried out by you in visiting personally the Indians at their homes and in forming an estimate yourself as to their present needs and conditions.

For the purpose of convenience the essential points to be reported upon by you are:

1. The population, including the number of children of school age.
2. The present condition of the Indians as regards subsistence and self-support.
3. Their condition as to clothing and their absolute needs for the winter.
4. What schools, if any, are available, and what is the disposition of the Indians toward sending their children to such schools?
5. The actual condition of the lands occupied by them, and whether they are exercising reasonable diligence in their farming operations; how they compare with their white neighbors in this respect; and what their needs are as regards additional lands for homes and farms.
6. The views of the leading Indians as to their needs, etc.

Your report should cover the points indicated and such others as you may after investigation deem proper to submit, to the end that the office may have all the data possible before it upon which to base the required report to Congress at the beginning of its next session.

This work, of course, should be expedited as much as possible, consistent with thoroughness and accuracy.

Should any points arise not covered by the foregoing instructions upon which you desire further information, etc., you should submit them promptly in order that the office may advise you concerning the same.

Very respectfully,

F. H. ABBOTT,
Assistant Commissioner.

WILLIAM LOKER, Esq.,
Commissioner for the Alabama Indians in Texas,
(Care of E. P. Holcombe, Chief Supervisor, Denver, Colo.)

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REPORT OF WILLIAM LOKER COMMISSIONER, ETC., DECEMBER 6, 1910.

Roll of Alabama Indians residing in the State of Texas.

[Post office, Kiam, Polk County, Tex. Trading point, Livingston, Tex.]

No.	Names.	Sex.	Relation.	Age.
				Years.
1	Willie Bullock	Male	Single	24
2	Galaway Bullock	do	Head	23
3	Lizzie Bullock	Female	Wife	18
4	Eva Bullock	do	Daughter	[1] 18
5	Thomas Anton	Male	Widower	50
6	Birdie Anton	Female	Daughter	16
7	Mary Anton	do	do	13
8	George Battist	Male	Head	56
9	Sissie Battist	Female	Wife	57
10	Tenney Battist	Male	Son	24
11	Laura Battist	Female	Daughter	21
12	John Battist	Male	Son	14
13	Gustin Battist	do	Head	44
14	Liza Battist	Female	Wife	39
15	Durant Battist	Male	Son	18
16	Jesse Battist	do	do	16
17	Asom Battist	do	do	14
18	Miller Battist	do	do	9
19	Nellie Battist	Female	Daughter	[2] 6
20	Nela Battist	do	do	[2] 6
21	Baker Battist	Male	Son	3
22	McConico Battist	do	Head	35
23	Mabel Battist	Female	Wife	27
24	Inie Battist	do	Daughter	5
25	Fulton Battist	Male	Son	3
26	Billie K. Battist	do	Head	38
27	Bettie Battist	Female	Wife	30
28	Sarah Battist	do	Daughter	13
29	Andrew Battist	Male	Son	11
30	Lizzie Battist	Female	Daughter	8
31	Fred Battist	Male	Son	6
32	Alfred Battist	do	do	2
33	Jefferson Battist	do	Head	29
34	Lizzie Battist	Female	Wife	19
35	Ashley Battist	Male	Son	2
36	Hollis Battist	do	do	[1] 8
37	Isaac Battist	do	Head	48
38	Fannie Battist	Female	Wife	50
39	Henry Battist	Male	Son	18
40	James Battist	do	do	16
41	Tom Battist	do	do	14
42	Ed Battist	do	do	22
43	Josephine Battist	Female	Widow	54
44	Bula Henderson [3]	do	Granddaughter	13
45	Pedigo Carson	Male	Head	58
46	Sadie Carson	Female	Wife	38
47	Alice Carson	do	Daughter	16
48	Nicie Carson	do	do	12
49	Caleb Carson	Male	Son	8
50	Joshua Carson	do	do	[1] 4
51	Charles Fitze	do	Single	40
52	Dennis Henderson	do	Head	52
53	Minnie Henderson	Female	Wife	53
54	Hattie Henderson	do	Daughter	16
55	Silesia Henry [4]	do	Wife	70
56	Mary Henry	do	Daughter	39
57	James Henry	Male	Son	31
58	Harry Henry	do	do	27
59	Sam Lockhard	do	Widower	64
60	Hubbert Lockhard	do	Son	25
61	Cassie Joe	Male	Widower	72
62	Venie Thomas [3]	Female	Granddaughter	16
63	David Williams [3]	Male	Grandson	13
64	Liza Williams [3]	Female	Granddaughter	9
65	Minnie Williams [3]	do	do	7
66	Claud Williams [3]	Male	Grandson	5
67	Lindsey Poncho	do	Head	44
68	Sallie Poncho	Female	Wife	37
69	David Poncho	Male	Son	8
70	Sarah Poncho	Female	Daughter	4
71	Mason Poncho	Male	Son	[1] 6
72	Josie Sylestine	Female	Widow	60
73	Dollie Sylestine	do	Daughter	27

[1] Months. [2] Twins. [3] Orphan. [4] Husband is not Alabama Indian.

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Roll of Alabama Indians residing in the State of Texas—Continued.

No.	Names.	Sex.	Relation.	Age.
				Years.
74	Hastings Sylestine	Male	Son	21
75	Hardin Sylestine	do	Head	27
76	Noney Sylestine	Female	Wife	26
77	Emma Sylestine	do	Daughter	5
78	Elizabeth Sylestine	do	do	1
79	Charlie Thompson	Male	Head	48
80	Josie Thompson	Female	Wife	43
81	Philip Thompson	Male	Son	5
82	Oscar Battist [1]	do	do	13
83	Bob Thompson	do	Widower	75
84	Fannie Thompson	Female	Daughter	26
85	Nona Thompson	do	do	11
86	Joe Alexander	Male	Head	27
87	Lula Alexander	Female	Wife	26
88	Kinnie Alexander	Male	Son	2
89	Sam Thompson	do	Head	28
90	Annie Thompson	Female	Wife	26
91	Ola Thompson	do	Daughter	4
92	John H. Thompson	Male	Head	32
93	Margaret Thompson	Female	Wife	21
94	Ettie Thompson	do	Daughter	4
95	Hill Thompson	Male	Son	[2] 2
96	Sissie Alexander	Female	Single	60
97	Ed Alexander [4]	Male	Nephew	19
98	John Alexander [3]	do	do	16
99	Sissie Sylestine	Female	Widow	56
100	Delia Sylestine	do	Daughter	15
101	Lucy Bean	do	Widow	35
102	Aaron Bean	Male	Son	19
103	Casper Sylestine	do	Head	32
104	Mosina Sylestine	Female	Wife	26
105	Emily Sylestine	do	Daughter	4
106	Martha Sylestine	do	do	2
107	Alex Thompson	Male	Head	60
108	Nancy Thompson	Female	Wife	61
109	Fanny Thompson	do	Daughter	33
110	Van Thompson	Male	Son	29
111	Mollie Thompson	Female	Daughter	26
112	Sam Houston Thompson	Male	Son	13
113	Pollie Poncho	Female	Widow	58
114	Louisa Poncho	do	Daughter	26
115	Mike Poncho	Male	Son	23
116	John B. Poncho	do	do	36
117	Sarah Poncho	Female	Daughter	1
118	Barnett Sylestine	Male	Widower	55
119	Gilbert Sylestine	do	Son	23
120	Hollis Sylestine	do	do	16
121	Nannie Sylestine	Female	Daughter	13
122	Jennie Sylestine	Female	Daughter	11
123	Elvina Sylestine	do	do	7
124	Susie Sylestine	do	do	2
125	Callie Sylestine	do	do	[2] 7
126	Jesse Poncho	Male	Head	37
127	Maggie Poncho	Female	Wife	22
128	Dorothy Poncho	do	Daughter	2
129	Emma Poncho [4]	do	Widow	70
130	Gibson Sylestine [5]	Male	Widower	60
131	John Sylestine	do	Son	23
132	Virginia Sylestine	Female	Daughter	19
133	Feagan Sylestine [3]	Male	Grandson	15
134	Carter Sylestine [3]	do	do	7
135	Frank Sylestine	do	Head	29
136	Frances Sylestine	Female	Wife	23
137	Davis Sylestine	Male	Head	38
138	Edna Sylestine [6]	Female	Daughter	16
139	Mattie Sylestine [6]	do	do	14
140	Clenson Sylestine [6]	Male	Son	12
141	Gotherine Sylestine [6]	Female	Daughter	10
142	Benton Sylestine [6]	Male	Son	8
143	Amos Sylestine [6]	do	do	6
144	Tom Scott	do	Head	51

[1] Son of No. 80 by first husband, a full-blood Alabama.
[2] Months.
[3] Orphans.
[4] Mother of No. 126.
[5] No. 130 is the leading man of this village and about the only one capable of giving early history of these Indians, but he was too ill to be interviewed. Was under care of Dr. Martin, of Knoxmill.
[6] These children all by first wife; present wife is Caddo Indian.

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Roll of Alabama Indians residing in the State of Texas—Continued.

No.	Names.	Sex.	Relation.	Age.
				Years.
145	Dollie Scott	Female	Wife	50
146	Fanny Scott	do	Daughter	19
147	Falony Scott	do	do	17
148	Folby Scott	do	do	14
149	Bill T. Scott	Male	Head	39
150	Lucy Scott	Female	Wife	37
151	May Scott	do	Daughter	13
152	Eunice Scott	do	do	19
153	Sarah Scott	do	do	7
154	Enby Scott	do	do	1
155	Dennis Williams	Male	Head	23
156	Jennie Williams	Female	Wife	26
157	Legget Williams	Male	Son	[1] 3
158	Epperson Williams	do	Single	21
159	John Poncho	do	do	36
160	John Scott Scott [2]	do	Widower	105
161	John Scott	do	Son	15
162	Maggie Jane Sampson	Female	Widow	48
163	John Sampson	Male	Son	15
164	James Poncho	do	Head	57
165	Mollie Poncho	Female	Wife	46
166	Mattie Poncho	do	Daughter	10
167	Tom Johnson [3]	Male	Head	48
168	Lizzie Johnson	Female	Wife	15
169	Ida Johnson	do	Daughter	13
170	Emma Johnson	do	do	11
171	Lillie Johnson	do	do	9
172	James Johnson	Male	Son	6
173	Louise Tnoids	Female	Widow	49
174	Everest Tnoids	Male	Son	32
175	Palmer Carson	do	Head	30
176	Fanny Carson	Female	Wife	29
177	Lucy Carson	do	Daughter	17
178	Carrie Walker	Female	Widow	32
179	Ida Walker	do	Daughter	13
180	Lee Walker	Male	Son	9
181	Josh Walker	do	do	6
182	Elma Walker	Female	Daughter	2
183	Willis Thompson	Male	Head	47
184	Josie Thompson	Female	Wife	32
185	Mary Thompson	do	Daughter	12
186	Thomas Thompson	Male	Son	9
187	McLane Thompson	do	do	2
188	Jennie Pere [4]	Female	Single	45
189	Sam David	Male	Widower	48
190	Mary David	Female	Daughter	15
191	Jack David	Male	Son	8
192	Floyd David	do	do	1

[1] Months.
[2] No. 160 is chief of tribe; is very feeble and quite childish; lives with son 10 miles northeast of village.
[3] This family lives about 10 miles north of village on account of head's employment in lumber mill; have a home within the village.
[4] No. 188 is living with this family; is a sister-in-law of No. 189 and came from Louisiana to care for children; No. 189 is seldom at home, being employed at Knox Lumber Co.'s mill about 10 miles from village.

1. *Population.*—The population, including the number of children of school age, is 192 individuals, 51 of school age (7 to 17 years, inclusive).

2. *Self-support.*—As regards the present condition of the Indians, they are not prosperous. They are a farming people, but have not sufficient land to produce a living for all. They are thrifty and sturdy workers. They seek employment in the lumber industries and the railroad work, and assist the white farmers, which, with their own farming, makes them absolutely self-sustaining.

3. *Clothing.*—They are well clothed and have no immediate needs for the winter.

4. *Available schools.*—They have upon their own property, about the center of their village, "the public free school of district No. 17 of Polk County, Tex." This public school is supported by the county.

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The instructor, Mrs. C. W. Chambers, is a very capable woman, and the course of instruction is the same as in all the county public schools, embracing agriculture, algebra, arithmetic, composition, drawing, geography, grammar, history (United States and Texas), language lessons, nature study, physiology, reading, spelling, writing, and sewing. The instructor's report to the county superintendent shows an enrollment of 47 children and a more than average regular attendance. The Indian parents are strict in compelling attendance of children.

5. *Use of land.*—The Indians have 1,280 acres, about 30 per cent of which is timber. They are cutting only what they require for construction and fuel. About 35 per cent is only sand and incapable of cultivation. The balance is cultivated. They raise cotton, sugar cane, potatoes, and garden truck, and a little corn, although this is not a corn country. They raise ponies, goats, chickens, hogs, and a few cattle. They are doing just as well, all things considered, as the white men of this part of Texas. If they had about 5,000 acres of land, these Indians would successfully farm and raise stock in competition with the white people.

6. *Views of Indians as to their needs.*—All of these Indians state that their needs are, first, more land to cultivate; second, a school with manual-training instruction. They advise that they require nothing else, and they are in this borne out by statements of the white people.

SUMMARY.

The Alabama Indians residing within the State of Texas number 192 individuals. They are located 17 miles east of Livingston, in Polk County, Tex., upon a tract of land 1,280 acres in extent, deeded to them by the State of Texas, free of taxes, but which they can not dispose of, about 60 years ago.

These Indians have abandoned all their old customs. In fact, they have preserved no history of their people. They use only English names and almost universally speak English. Their manners and dress are as the white people and they live just as their white neighbors.

They farm all of their land that is capable of cultivation, but obtain their living more by working in the lumber industries, upon the railroad construction and section work, and hiring out to the white farmers. They are thrifty people and steady workers.

They have a public school within the village and take full advantage of same; also they have a Presbyterian Church supported by the "East Texas Presbytery," and the rector's roster shows the great majority faithful members. Their land is not divided, but they farm for the benefit of all. They are, of course, subject to the State and county laws, but any disputes within the village are settled by their church committee, and I am told that there is seldom a necessity for action. There is no instance of the civil authorities having been called upon. They are an absolutely civilized and peaceful people and appear to use every means to advance themselves. I am told some of the younger men that go out to the mills to work have used whisky to excess, but strong drink is not a habit among these Indians. They are living in a prohibition country, but am told that even before the county had prohibition these Indians spent very little for liquor.

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They live in homes of their own construction and as good as their state of prosperity could command. These homes are one story, but of two and three rooms, and they are comparatively comfortable. They raise for their own purposes chickens, hogs, goats, cattle, and ponies—only a small number, but all they can care for.

They dress as well, if not better, than the class of white people they have for neighbors. In particular, I noted the young girls at church. All wore hats and gowns of store make.

Were it possible to assist these Indians toward getting more land and manual training, it is very certain they would take full advantage of the benefits.

These Indians advance no reasons why the Government should give them anything. They do not pretend to have a claim of any sort against the Government, but for some years have understood that Congressman Cooper and others had asked assistance for them and have hoped the Government would increase their land holdings. They are strongly inclined to agriculture, and they believe, as do the white people, that with sufficient land they would be successful farmers and a prosperous people. They are not in prosperous circumstances, but neither are they in want. They are sturdy workers, and as long as the present lumber industries continue they will continue to make a living. It is in the lumber industry that they obtain the greatest part of their revenue. The timber is very rapidly being cut, and when this industry ceases they must seek other means of subsistence. It is their hope and that of all the white people that know anything of them that the Government will assist them to the extent of giving them more land, which would care for their future. The health conditions are better than those of the white people. This may be due perhaps to the fact that most of the white people have located in this part of Texas of late years and the climate is trying. Still these Indians lead regular industrious lives and take the best care of themselves. In sickness they call in the white physicians.

From all information I am able to obtain, advise that there are no other Alabama Indians in Polk County, Tex. There are a few Caddo Indians, not more than a dozen, and most of them are intermarried with these Alabama Indians. Also there are some of the Kickapoo Indians in Polk County. I am told that they are of low degree, have intermarried with the Negroes and are placed in the same class with the Negro. The only other Alabama Indians can learn of are about 100 located in Louisiana. These have been asked to locate here in Texas, but always have declined to consider the proposition. Occasionally a party of Alabamas from Louisiana visit these Texas Alabamas, and while it is admitted they are all of the same tribe the Louisianas do not in the least compare with the Texas Alabamas in point of civilization and advancement. There is now practically no communication between the Texas and Louisiana Alabamas.

It can be said without fear of contradiction that the Alabama Indians residing in Texas are absolutely civilized, have availed themselves of every means of advancing themselves; that they would appreciate and profit by Government assistance, and are in every way deserving of any assistance the Government might give them.

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REFERENCES AND AUTHORITIES.

For assistance and information rendered, which was of much help in investigating conditions, I am indebted to these persons particularly.

Mrs. M. V. Currie, Kiam, Polk County, Tex. Mrs. Currie is the widow of a Presbyterian minister, and with her son is living among these Indians. Mr. and Mrs. Currie spent 25 years in mission work among different Indians. Five years they spent with the Creeks, 4 years with the Alaska Indians, and 16 years with this tribe of Alabama Indians. During a period of 10 years Mr. Currie was rector of the Indian church, and Mrs. Currie was the instructor of the Indian school. It was through Mr. Currie's influence that the East Texas Presbytery established their church for the Indians.

Mrs. Currie is considered their best friend and the greatest worker and authority by both the Indians and white people. She expresses the opinion that these Alabama Indians are the best she has met with in all her work. Advises that when she first located among them they observed all Indian customs, held their various dances, used their own language, dressed in buckskin clothing of their own make, and did work only sufficiently to obtain a poor living, and spent the great part of time hunting. She considers their advancement very remarkable. She now considers them in every way the equal of the whites, and in a degree their superior.

Mr. and Mrs. Caleb W. Chambers, Kiam, Polk County, Tex. Mr. Chambers is present rector of the Indian church and Mrs. Chambers is the instructor of the Indian school. They are now in the eleventh year of service among these Indians and, like Mrs. Currie, are very enthusiastic in speaking of the remarkable advancement of these Indians. Mr. Chambers knows something of agriculture, and has been of much assistance in this work with the Indians. He also assists in the school. Mrs. Chambers is a very energetic and capable woman, and besides being a very successful instructor has taught the Indians much in the way of domestic duties. Both Mr. and Mrs. Chambers are held in the highest esteem by these Indians.

Mr. Davis Sylestine, Kiam, Polk County, Tex. Mr. Sylestine is a full-blood Alabama Indian, and was born and raised in this village. He speaks English fluently, and is a capable man. He has attained of his own efforts the responsible position of "saw filer" in Knox Lumber Mill, and is looked upon as among the most trustworthy of the employees. He is a trustee of the church, clerk of the village, and is looked upon as the leader of the younger element of the village.

Capt. Evans, "postmaster," Livingston, Polk County, Tex. Capt. Evans is the oldest resident, having been in this part of Texas for 40 years, and has known these Indians all of that time. He advises that their advancement has been remarkable, and gives them a very high reputation for industry, honesty, and says they have always been peaceable and excellent neighbors.

Mr. Nute Green, Livingston, Polk County, Tex. Mr. Green is connected with M. Stone Co., general merchants, of Livingston. He has been engaged in this line for 25 years in Livingston, and has always been in close touch with these Alabama Indians. He gives them the highest reputation for honesty, sobriety, and industry, and advises that they have always been peaceful and the best kind of neighbors.

WILLIAM LOKER.

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UNITED STATES SENATE,
Washington, D. C., April 17, 1912.

Hon. JOHN H. STEPHENS,
Chairman Committee on Indian Affairs,
House of Representatives.

DEAR SIR: Acting upon the conversation between us yesterday in the House of Representatives, I herewith hand you letters I have received from Hon. J. C. Feagin, of Livingston, with reference to the Alabama Indians located in Polk County, Tex., and also a letter addressed to me, in answer to one of inquiry, by Hon. Samuel Adams, Acting Secretary of the Interior, which may be of some service to you. After you have reached a conclusion on the subject I will thank you to inform me what it is, and return the correspondence to me for my files.

Very truly, yours, C. A. CULBERSON.

LIVINGSTON, TEX., *April 9, 1912.*

Hon. C. A. CULBERSON,
Washington.

MY DEAR SIR: On January 18 last I sent you a copy of the Polk County Enterprise (a paper published at this place) and also wrote you in addition thereto relative to the Alabama Indians who are located in this county. If not asking too much and it is convenient I would be glad that you could find time to interest yourself in behalf of these people, and have the Interior Department to give their claim as early attention as possible. It has occurred to me that possibly Hon. J. H. Stephens, who is the Member from Texas on the Committee on Indian Affairs, might be disposed to interest himself in their behalf. I merely make these suggestions, and would be glad for you to advise me what you think the prospects are, if any, for them getting any relief. I really believe if the Members of Congress and other officials knew the facts as they actually exist, they would be disposed to grant them aid. With best regards, I am,

Yours, very truly,

J. C. FEAGIN.

LIVINGSTON, TEX., *February 19, 1912.*

Hon. C. A. CULBERSON,
The United States Senate, Washington.

MY DEAR SIR: This acknowledges receipt of your letter of the 15th with letter of Hon. Samuel Adams, Acting Secretary of the Interior, in reference to the Alabama Indians in this county. I have carefully noted contents of same. Permit me to suggest that in my opinion the recommendation of the special agent to which Secretary Adams refers is a much better plan for these Indians than an allotment under the general law. However, I should think $10,000 would be rather a small amount to appropriate with the view of placing these Indians in a proper condition, unless there could be a supplemental appropriation for each year for several years.

This land which these Indians own in common never was first class, and now a great portion of it is very poor because of its having been cleared and cultivated in such a crude way. I really believe if

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Congress would provide a sum sufficient to acquire even two or three thousand acres of land, and then provide for their industrial training through some one who is competent and interested in them, then this would be a very proper course to pursue.

In the apportionment of our school funds the Indian children are treated as are our children and they receive their pro rata, but this is not sufficient and is not used in the proper way.

For a number of years the Presbyterian Church has kept what you might call a mission at the village, and has tried to help in their education and to christianize them; but it is my opinion, as well as that of many others, that the parties in charge of this mission are not the most practical. The education of these Indians has not been properly proportioned, and I hardly think the results have been the very best.

I would be glad if Congress could make an appropriation in line with the one recommended by the special agent, giving these Indians more land and provide for them manual instruction.

If you can make any suggestions wherein I can aid in this, I would be glad to do so. Thanking you for your past courtesies, and hoping to hear from you at your convenience, I am,

Yours, very truly, J. C. FEAGIN.

P. S.—I am returning the letter to you from Hon. Samuel Adams, as requested by you.

J. C. F.

DEPARTMENT OF THE INTERIOR,
Washington, February 15, 1912.

Hon. C. A. CULBERSON,
United States Senate.

SIR: I have the honor to acknowledge the receipt of your letter of February 2, 1912, regarding the Alabama Indians in Texas, wherein you ask as to the right of these Indians to take allotments on the public domain.

The general allotment act of February 8, 1887 (24 Stat. L., 388), provided originally for allotments on the public domain to those Indians "not residing upon a reservation, or for whose tribe no reservation has been provided by treaty, act of Congress, or Executive order," and who made settlement on any surveyed or unsurveyed lands of the United States not otherwise appropriated. The specific wording of the fourth section of the original act, however, has been amended both by the acts of February 28, 1891 (26 Stat. L., 794), and the act of June 25, 1910 (36 Stat. L., 859), under which allotments to Indians on the public domain are now confined to "any Indian entitled to allotment under existing laws" who may make settlement upon any surveyed or unsurveyed lands of the United States not otherwise appropriated.

The Alabama Indians in Texas, numbering some 192, are located about 17 miles east of Livingston, Tex., in Polk County, on a tract of 1,280 acres of land deeded to them by the State of Texas in 1854, the lands being free from taxation but with restrictions against alienation. As to the physical, moral, and financial conditions of these Indians, your attention is invited to a report from this department dated December 23, 1910, which was responsive to a provision

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in the act of April 4, 1910 (36 Stat. L., 274), and which is incorporated in House Document No. 1232, Sixty-first Congress, third session.

Never having had a reservation provided for their benefit, in so far as the Federal Government is concerned, the department is of the opinion that under existing laws these Indians are clearly entitled to allotments on the public domain, provided satisfactory settlement is made on the lands desired in allotment as required by law and the regulations of this department issued in accordance therewith. A blank form to cover applications of this character is transmitted for your information.

To procure allotments on the public domain, of course, would necessitate these Indians leaving their present habitat and making actual bona fide settlement on the lands applied for in allotment. Whether or not they desire to do this will, of course, rest entirely with the individual members of the band. These Indians may also avail themselves of the privileges of the act of July 4, 1884 (26 Stat. L , 96), extending benefits of the homestead laws to persons of Indian blood.

In submitting its report hereinbefore referred to regarding these Indians, the department invited the attention of the Congress to the recommendations of the special agent, wherein it is said that while these Indians have no claim against the Government their needs are (1) more land to cultivate; (2) a school with manual-training instruction. Further, that if these Indians had about 5,000 acres of land they would be able to cope successfully with their white neighbors in farming and stock raising, and would be able to take care of themselves in the future.

No further action appears to have been taken by the Congress, however, with a view of extending aid to these Indians, but the Indian Office informs me that it has had under consideration the advisability of suggesting that there be included in the estimates for the Indian appropriation bill to be submitted next year a specific appropriation of about $10,000 to be available for expenditure for their benefit by the Secretary of the Interior in such manner and for such purposes as he may deem proper and for their best interests.

Respectfully,

SAMUEL ADAMS, *Acting Secretary.*

LIVINGSTON, TEX., *January 18, 1912.*

Hon. C. A. CULBERSON,
Washington, D. C.

DEAR SIR AND FRIEND: I am sending you by this mail under separate cover a copy of the Polk County Enterprise of this date, a weekly paper published at this place.

In this you will find an article on the little tribe of Alabama Indians located in the eastern part of this county. Having lived within from 8 to 16 miles of these Indians for the past 40 years, I can state from personal knowledge and general repute that all the statements in this article are substantially true. It has occurred to me for many years, and many others as well, that as the United States has been so liberal with the other Indian tribes it has not done exact justice by these people.

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During the session of the Fifty-fourth Congress (1896) others and myself then undertook to interest Congress in behalf of these Indians and I had some correspondence with Representative Hon. S. B. Cooper and Senator Hon. Horace Chilton. The latter on February 24, 1896, introduced a bill in the Senate for their relief. It was S. 2244, and, as I now recall, about the same time Mr. Cooper introduced a like bill in the House, but for some reason neither was ever finally acted upon. I did have a copy of the bill introduced by Senator Chilton, but have lost or mislaid all of it except a small part, and that I herewith inclose you.

[S. 2244 Fifty-fourth Congress, first session.]

IN THE SENATE OF THE UNITED STATES.

FEBRUARY 24, 1896.

Mr. Chilton introduced the following bill; which was read twice and referred to the Committee on Indian Affairs.

I am convinced that if the United States ever was under obligations to, or owed any of the American Indians anything, it certainly does owe something to these people—the Alabama tribe. That they are aborigines or natives there can be no doubt, nor can it be successfully stated that they have ever been any way but friendly, kind, and respectful to the white race.

As a rule they are very law-abiding, truthful, and honest, and for their good morals and chastity, they are a rare exception, and, so far as I am advised, the most virtuous race of people living. It may appear that this last statement is very strong, but I candidly believe that the facts and a thorough investigation will verify it. It is said, "All Republics are ungrateful"; yet I believe if Congress could be brought to the full knowledge of the history, conduct, general character, and conditions of these people it would do something for them. Their claim upon the Government is meritorious, and they are in need. Under our present State constitution the legislature is without authority and I think is inhibited from appropriating anything for them.

My purpose in writing is to advise you of these facts and request that you make, or cause to be made, such investigation as may occur to you proper and necessary, and if you then agree with me, that you ask Congress to do that which you believe under all circumstances is right. I have no personal interest in what may be done, and feel that I am prompted by that motive which should inspire all good citizens to interest themselves in asking that justice should be done at all times and to all people.

These Indians are incapable of prosecuting their claim and they have no one to represent them, hence my willingness to render them such aid as I can.

I will be glad from time to time to render you such assistance and give such information as I can. After you have considered their claim kindly advise me.

I am, as ever, your friend, J. C. FEAGIN.

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[Polk County Enterprise, Livingston, Tex., Jan. 18, 1912.]

[Photograph.]

The above is from a photograph of John Scott, Indian, taken while he was in attendance at the Polk County Fair in Livingston in October, 1911.

John Scott bears the distinction of being the only living chief of the Alabama Tribe of Indians. He is said to be 106 years old, and those who saw him last October feel that his looks in every manner bear out the statement.

The Alabama Tribe of Indians, originally from Alabama, came from Louisiana to Texas in 1815 or 1816, settling near what is now known as old Peach Tree Village close to the line of Polk and Tyler Counties. It is said that Gen. Sam Houston visited them and spent a night with their chief in this village; that he at that time advised them of the probability of war between the white people and the Mexicans and suggested to them that it would be to their interest to remain neutral, inasmuch as defeat to them would mean their extermination.

In 1836 these Indians moved back to Louisiana, remaining there about two years, when they returned to Texas and located in Tyler County on Horse Pen Creek and at what is known as "Fenced-in Village," where they remained until about 1854 when the State of Texas gave them about 1,000 acres of land on Big Sandy Creek in Polk County, which is the site of their present village—about 16 miles east of Livingston.

For a long time they supported themselves as other Indians formerly did, by hunting and fishing; later on they began dressing deerskins, making reed-cane baskets and moss saddle rugs, which they traded to the white people.

The one peculiar characteristic of this tribe is they have always had a friendly feeling for the white man. Although they came to Texas when there were few, if any, white people in this country and have remained through three wars it is said that not one of their number ever willfully did bodily harm to a white man or trespassed upon his property. It should also be said that they are honest and virtuous. Although they have lived in Polk County for more than 75 years, during which time they have mingled freely with their white friends, it is said that not one of them has in his veins a drop of blood foreign to his tribe.

It might be stated here that the United States Government has donated large and valuable tracts of land to other Indian tribes of America, most of which tribes had always been extremely hostile to the white man and waged on him the most cruel warfare. In view of these donations one would naturally suppose that our Government had certainly donated most liberally to this peaceful Alabama tribe, but let it be said, in shame to our Government, such is not true. They have never been given one dollar or a single acre by the United States Government, the only donation ever made them by the white people being the 1,000 acres of land granted them by the State in 1854.

John Scott has been the chief of this tribe now for over 40 years and will likely be their last one. When they came to Texas they numbered something near 800; there are now probably not more than 150 of them, and those now living are fast losing their tribal relations. Due to the fact that game has become extremely scarce they have been forced to farm or seek public work, and they have practically adopted the customs, as well as the mode of dress, of the white man.

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 875.

COST OF OCCUPATION OF PHILIPPINE ISLANDS.

MESSAGE

FROM THE

PRESIDENT OF THE UNITED STATES,

TRANSMITTING

STATEMENT RELATIVE TO THE COST WHICH HAS ACCRUED TO THE UNITED STATES AS A RESULT OF THE OCCUPATION OF THE PHILIPPINE ISLANDS.

JULY 19, 1912.—Read, referred to the Committee on Insular Affairs, and ordered to be printed.

To the House of Representatives:

The following resolution was adopted by the House of Representatives January 25, 1912:

Resolved, That the President of the United States be, and he is hereby, requested to submit a statement to the House showing the cost which has accrued to the Government of the United States, from the beginning of and as the result of the occupation of the Philippine Islands by the United States.

The cost to the Government of the United States resulting from the occupation of the Philippine Islands, through direct appropriations by Congress, is as follows:

(*a*) By the act of March 3, 1901, to carry out the obligations of the treaty of November 7, 1900, covering the cession by Spain to the United States of certain small islands belonging to the Philippine Archipelago lying outside the lines described in the treaty of Paris, $100,000.

(*b*) By the act of March 3, 1903, for the relief of distress in the Philippine Islands, $3,000,000.

(*c*) By the act of March 3, 1903, for completing the census of the Philippine Islands, $351,925.50.

The total cost accruing to the Government of the United States for the purposes defined by the three acts cited was therefore

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$3,451,925.50. There has been no other direct expenditure from public funds of the United States solely for and on account of the Philippine Islands not subsequently repaid from Philippine revenues. On the other hand, there was expended from the revenues of the Philippine Islands from 1898 to 1900, in the execution of the direct military purposes of the United States, a total of $4,975,747.52, for which no reimbursement to the Philippines has been made. There is consequently a difference, in direct expenditures, in favor of the Philippine Islands of $1,523,822.02. Whatever cost has accrued to the United States, in addition to the direct expenditures above cited as a result of the occupation of the Philippine Islands, has resulted from the military and naval operations in and about the archipelago and from the construction of fortifications and naval stations therein. The total amount thus expended can not be determined with any degree of accuracy. In this connection your attention is invited to Senate Documents No. 339 and No. 416, Fifty-seventh Congress, first session, wherein are printed the reports of the Secretary of War in response to a resolution of the Senate of April 17, 1902, which resolution sought to obtain information regarding expenditures on account of the Philippine Islands of the same nature as desired by your resolution of January 25, 1912. These reports of the Secretary of War set forth the data desired for the periods indicated as accurately as was then possible and show the difficulties attending compilation of data of the kind desired and the impossibility of securing accurate results.

The same difficulties, intensified by the changing conditions during the period that has since elapsed, exist to-day and render the problem presented by your resolution practically insoluble.

The cost of the military and naval operations in the Philippines resulting from the occupation of those islands is and must always remain a matter of argument. These operations resulted in part from the War with Spain and in part from the insurrection in the Philippines incident thereto; but the Philippines were not a cause of the War with Spain, nor is it possible to separate the cost of the war in the Philippines from the cost of the war elsewhere, nor the cost of the War with Spain from the cost of the Philippine insurrection. Again, it is impossible to state what part of the cost of the support of the Army and Navy since the conclusion of the Philippine insurrection can be regarded as resulting from the occupation of the archipelago. We maintained a fleet in the Orient for many years. It can not be said definitely that our occupation of the Philippine Islands increased this fleet. The military forces now in the islands would have to be supported at home were they not in the Philippines. On at least two occasions their presence there has resulted in saving to the United States in the cost of sending troops to China for the protection of American interests. It is impossible, in other words, to determine clearly what part of the naval and military expenditures in the Philippines is chargeable to the cost of the islands and what part to the cost of national defense. The cost of fortifications in the Philippines can be more readily computed, but this is an item chargeable clearly to national defense rather than to the occupation of the Philippine Islands. If we had a naval station in those islands, as all persons of whatever view propose, such fortifications are necessary.

Aside from the direct appropriations of Congress cited above, the expenditures incident to military and naval operations, and the

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support of the United States forces in the archipelago, the Philippine Islands have been in no way a charge against the Treasury of the United States. In other words, with the exceptions named, the Philippine Government has been entirely self-supporting. Moreover, it has been throughout self-supporting in a larger sense than any other territorial possession of the United States. All expenses attached to the collection of revenues, to the administration of the Post Office Department and of the courts, to the survey of the islands, to the conservation of their resources, and to the improvement of their rivers and harbors, and to all similar public works, which elsewhere, as in Porto Rico, Alaska, and the Hawaiian Islands, are a charge against the National Treasury, are and have been paid from the revenues of the Philippine Islands.

WM. H. TAFT.

THE WHITE HOUSE, *July 19, 1912.*

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 891.

AGRICULTURAL CREDIT BANKS.

AN ARTICLE BY O. R. HOBSON, M. A., ENTITLED "AGRICULTURAL CREDIT BANKS," PUBLISHED IN THE JOURNAL OF THE INSTITUTE OF BANKERS, LONDON.

JULY 27, 1912.—Ordered to be printed.

An agricultural credit bank, as its name implies, is a bank the main object of whose existence is to grant credit to those engaged in agriculture. It is, in fact, the function of the agricultural bank to finance agriculture in just the same way as the ordinary joint stock bank considers it at any rate part of its business to finance industry. The large joint stock bank is chiefly the product of the industrial revolution which, consequent upon the invention of machinery and the discovery of steam power, largely increased the importance of capital as a factor of production at the expense of labor, thus replacing the small producer by the wealthy capitalist and the joint stock company. Of the agricultural credit bank, on the other hand, it would be more true to say that it was the cause than the effect of an agricultural revolution; for its growth was due rather to the wisdom of those who saw that the methods of financing industry might with advantage be applied to agriculture than to any demand on the part of agriculture itself for credit as a means to increasing the productivity of the soil. But though it is true that capital can be used in agriculture as well as in industry, the evolution of the agricultural credit bank has not been, and can not be, similar to that of industrial credit banks.

In the first place, the industrial credit bank can with advantage do business with a large number of different industries, while the agricultural credit bank must, in the probable absence of any other form of business, confine itself almost exclusively to agriculture. Secondly, while industrial production has fallen chiefly into the hands of the large capitalist, agriculture has, to a very large extent, whether for social or economic reasons, continued to be carried on by small men, and it is thus chiefly with the small and poor man that the agricultural credit bank has to deal.

Agricultural credit banks may plainly be organized on three different principles, namely, (1) as State controlled institutions, (2) as joint stock, or private profit-earning companies, (3) cooperatively, as cooperative societies.

As this essay will be concerned mainly with the discussion of banks included in the third category it will not be out of place to indicate

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at the outset the general grounds for rejecting those of the first two classes as unsuitable, amplifying and illustrating them later from the experience of countries in which such institutions exist and flourish.

(1) The objections to the management or control by the State of agricultural credit banks are in the main those which apply to all State enterprise of a commercial character. Institutions managed by the State are liable, owing to the absence of competition and the lack of incentive on the part of its employees, to be conducted without that regard for efficiency and economy which is essential to the success of private industrial undertakings. This is a defect which is probably inseparable from State trading; and though there may in many cases be countervailing reasons which will justify the State in undertaking for itself, to the exclusion of private firms or persons, the production of certain commodities or the supplying of certain wants, it will scarcely be maintained that agricultural banking is one of these. For the agricultural credit bank is concerned, as we have seen, with the granting of credit to men of little substance engaged in a notoriously uncertain occupation, and for this reason extreme vigilance and economy of management are above all things essential for its success.

The State may, indeed, carry on the business at a loss, but such protection granted to one industry at the expense of the others is scarcely likely to conduce to its real benefit, but is calculated rather to lead it to rely more and more on artificial support till it becomes finally incapable of existing without it. This criticism will apply also to State doles and bounty feeding, even though the channels through which they are dispensed are not controlled by the State. Credit can be as usefully employed by the agriculturist as by the industrialist, but only if it be obtained in the way of business at its market value. A farmer who pays the market rate for his loans will consider carefully and think long whether the result is likely to justify the outlay—whether, for example, the fertilizer which a loan will enable him to put in is likely by the increased crop of next year to yield him a margin of profit after he has paid the interest. If, however, a bountiful but misguided government literally thrusts upon him any sum he may choose to name at an absurdly low rate of interest, a very small knowledge of human nature will show that it is more than probable that he will evolve his schemes for improvement with a light heart and end them with a lighter purse.

Assistance of this kind merely puts a premium on incompetence. It is fairly claimed that facilities for credit will, in addition to the material profit they afford, have the moral effect of stimulating confidence and independence, but this result will only follow if such credit is demanded and given as a matter of business on business terms. This does not mean that the State can not do much to facilitate the establishment of a system of agricultural credit banks, but it is submitted that the true criterion of any measure of assistance is this: Is the proposed aid a temporary expedient for the purpose of tiding the system over the critical period of youth, to be dispensed with as soon as it reaches a more mature age? Or, is it calculated rather to reduce it to a permanent condition of weakliness and dependence?

(2) It may appear surprising, at first sight, that the joint stock banking system which, in the course of the last eighty years, has established itself so impregnably throughout the civilized world,

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should be deemed incapable of adapting itself to the needs of the small agriculturist. That it has not succeeded in doing so adequately will probably be admitted. This fact is itself prima facie evidence that it is not fitted for such a task; for, with the ever-increasing pressure of competition, so obvious a development of banking business would assuredly not have escaped notice had it been capable of successful exploitation. There is no need, however, to strain the point, since the reason for this failing on the part of the joint-stock bank is not far to seek. In point of fact the agricultural credit bank does not pay, in the ordinary commercial sense of the word. The banking transactions of the class of men with whom it deals are on so small a scale that in any case it would be a matter of difficulty for a commercial enterprise to undertake them with success. But the crux of the situation lies in the fact that these small agriculturists have for the most part no security of the kind acceptable to a banker to offer as cover for their loans. In the case of the small proprietor a mortgage of his farm may, of course, be available, though such a proceeding is in many cases too expensive and cumbersome; but the tenant farmer has usually no collateral whatever to offer, save possibly the hypothecation of future crops or of cattle or plant. Neither expedient, though useful on occasion, is very desirable, nor likely to find favor in the eyes of a banker. In the majority of cases, in fact, the lender will have little more substantial to rely on than the personal security of the borrower, supplemented, perhaps, by the guaranty of a friend or two not much better off financially than himself. It is evident, therefore, that the professional banker will be unable to any large extent to accommodate this class of customer. His existing branches in the smaller towns are not so remunerative that he will easily be induced to establish numerous further offices in country villages; while the supervision of loans, covered by the type of security we have described, is a task which would severely tax the powers of the most vigilant and capable of managers.

Further, the periods for which loans will frequently be required are much longer than that for which the joint-stock bank cares to part with its funds. Agricultural credit must in general be long-term credit. The farmer does not, as a rule, turn his money over nearly so rapidly as the manufacturer or tradesman. For few agricultural purposes is a loan for less than six months of much use; and where it is required for the purchase of a fertilizer or the erection of buildings the necessary period may run into years.

We may conclude then that the joint stock banking system, through no fault of its own, but owing to the inherent difficulties which the task involves, can not hope to succeed in adapting itself to the needs of the small agriculturist.

(3) The Cooperative Society is defined by Mr. Fay as "an association for the purposes of joint trading originating among the weak and conducted always in an unselfish spirit, on such terms that all who are prepared to assume the duties of membership may share in its rewards, in proportion to the degree in which they make use of their association."[1] The cooperative bank is a cooperative society for the purpose of carrying on the trade of banking. It is, in fact, a bank in which the proprietors and the customers are one and the same body

[1] "Cooperation at Home and Abroad," p. 5.

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of people. The qualification for membership of a credit society is the subscription of one or more shares of small amounts which are not transferable,[1] but may be refunded when membership ceases. The liability of a member for the debts of the society may be limited to the amount of the paid-up share or to a multiple of it, or, as is more usual, may be without limit. Subject to the payment of this share, with possibly a small entrance fee, anyone who can give proof of satisfactory personal character is freely admitted.

What grounds have we for supposing that such an association of men of small means, utterly without training in the business they are to conduct, will succeed, where the State with its unlimited financial resources and the professional banker with his expert knowledge are, as we have suggested, doomed to failure? What qualifications for the task do these pigmies possess which the giants of the financial and political worlds can not claim with a hundred times more plausibility?

These are questions which a statement of claim on behalf of cooperation will at once call forth. They are questions to which à priori reasoning can supply no answer half so convincing as the actual history of the movement. Before passing, however, to the consideration of the systems themselves from the dynamic point of view, we may indicate briefly wherein it is that the strength of the cooperative rural credit society lies. We shall find that it lies mainly in two directions, the one peculiar to itself, the other shared with other forms of cooperation.

It has already been pointed out that the small agriculturist, while he needs credit, and can put it to good use, suffers from the great disadvantage that he has no adequate security of the type usually required to offer. Now, the place of material security can only be taken by personal security, by a system, in fact, by which the borrower will borrow on the security of his own character, together with that of a number of his friends who may be willing to back their good opinion of him by guaranteeing the payment of his loan. For the success of this plan it is manifestly essential for the members of the society in general, and the guarantors of a loan in particular, to keep a sharp watch on the borrowing member, to see that the loan is duly applied to the purpose for which it was granted, and that its repayment is not jeopardized by the folly or incompetence of the borrower. The situation is summed up with characteristic Gallic felicity by M. Décharme, of the French Ministère d'Agriculture, when he describes credit banks of his country as being "in communities where everybody knows everybody else, and they always ask what the man wants to borrow for, and if he says he wants 400 francs to buy a cow, they watch him, and if, four or five days afterwards, he has no cow, they know it."[2]

The system is, in fact, an extension of the cash credit system of Scotland, to which, in the words of Macleod, "the marvelous progress and prosperity of that country is mainly due." Its fundamental characteristic is that the supervision of loans is conducted without expense, and conducted efficiently, because it is to the interest not only of guarantors but of all the members of a society to exercise the strictest vigilance.

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[1] "Cooperation at Home and Abroad." Appendix.
[2] Interviews on the Banking and Currency Systems of England, Scotland, etc. (U. S. Monetary Commission.)

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The second important asset of the cooperative bank—that which it possesses in common with cooperative supply and sale societies—is the power of collective bargaining. As the cooperative supply society can buy at wholesale rates and sell to its members at less than retail prices, owing to the elimination of middlemen's profits, so the cooperative credit society is able to command loans and deposits at moderate rates on the joint security of its members, relending to the latter at lower interest than they can individually obtain.

The combined effect of these two factors, inexpensiveness of management and collective bargaining, is that the cooperative bank can grant credit on cheaper terms than the joint stock bank, while making the business pay where the latter can not.

With this brief preliminary indication of the nature and methods of the agricultural credit society, we must proceed to consider the actual systems in existence, beginning with those of Germany, the pioneer of the movement.

GERMANY.

It was in 1848, the year in which the acute distress of the poor at last found vent in revolutions and uprisings throughout Europe, that the seeds were first sown of that great system of cooperative credit, whose influence on the agricultural world it would be difficult to overestimate.

The movement in Germany, in contrast with the pretentious but ill-fated scheme of Proudhon in France, started unostentatiously enough. Its pioneers were two, Schulze and Raiffeisen, burgomasters respectively of Delitzsch in Saxony and the district round Neuwied on the Rhine.

The circumstances which called forth their energies were the same in each case, namely, the helpless distress of the poor. They saw, as others did, that it was the economic waste caused by want of capital which lay at the root of the evil. But they alone were able, in the face of general incredulity, to devise a remedy. The first efforts of both were of the nature of individual attempts to relieve distress in their districts. And when experience taught them that permanent amelioration could only come through self-help, it was in the direction rather of cooperative supply than of cooperative credit that they set out. They organized small cooperative societies for the purchase of necessities of life and raw materials. This, however, they soon saw was not sufficient, because the poor were already deeply in debt to moneylenders. It was the presence of the moneylender in their midst that led the way to cooperative credit. Relief measures were of little avail while the burden of debt remained. Their efforts were thus directed toward the establishment of credit societies; and as the outcome we have two distinct systems, differing, if not essentially as the more fanatical adherents of either would have us believe, yet in details sufficiently important to justify a brief examination of each. The points of difference will be found to be due mainly to the slightly different functions which the two systems perform, but partly, also, to the different spirit which animated their founders.

The Raiffeisen banks are purely agricultural banks, drawing their members very largely from the class of small farmers and agricultural laborers. Each bank serves a very small area, an area limited in fact by the practical requirement that all the members should know each other. The Schulze banks on the other

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hand are situated chiefly in urban districts, their business lies among small men of every class, industrialists and shopkeepers as well as farmers, and the area from which their members are drawn is far less restricted than under the Raiffeisen system. In fact the Schulze-Delitzsch banks are commonly called town banks,[1] and in so far as that is the case they are outside the scope of our survey. The description, however, would seem to be hardly quite accurate, since of their members the largest class, about 27 per cent of the whole, is classified as "independent agriculturists."[2] In view of this and the further fact that they have always regarded the Raiffeisen banks as competitors, we should not be justified in excluding them from consideration.

Membership and organization. (*1*) *Schulze-Delitzsch banks.*—The governing idea in Schulze's mind was that his banks should be quite above suspicion of any connection with charity and still more with religion. They were to be self-sufficient, independent, profit-making concerns, only differing from joint stock banks in that the members alone were to have an interest in profits earned. Accordingly admission to membership must not be made too easy. The amount of the share was therefore fixed at a comparatively high figure, the minimum being about £6, while the average is no less than £17.[3] Payment by installments within a reasonable time is allowed. Over and above this there remains the unlimited liability of each member, limited liability, first allowed by the law of 1868, being a feature of only few societies. Thus no effort was spared to secure members of thrifty and industrious character, and also to establish the societies from the first on a sound basis. For this latter purpose, also, strict rules were laid dwn as to the building up and administration of the reserve fund. For the first year or two all profits are allocated to reserve, and thereafter 15 to 20 per cent.

The administration of the banks is closely analogous to that of the ordinary joint stock company. It consists of (1) the Aufsichtsrat or directorate, elected by the general meeting of members, and (2) the Vorstand, or management committee, three in number, appointed by the Aufsichtsrat. The managers, in strict accordance with Schulze's theory of the noncharitable, businesslike nature of his banks, are paid officials, a weak feature of the scheme being the commission allowed to them on business transacted. The "Vorstand," of course, superintends the actual working of the bank, and also deals with the applications for advances, subject to the possible intervention of the Aufsichtsrat in special cases. The Aufsichtsrat determine questions of policy, and act also as an audit and inspection committee.

(2) *Raiffeisen banks.*—The Raiffeisen banks were organized to supply the needs of a far poorer class of people than those of the Schulze-Delitzsch system—a class to which the subscription of even a moderate share was an utter impossibility. Accordingly Raiffeisen laid even more stress than Schulze on the necessity of temperance and good character as qualifications for membership, while he dispensed with such material evidence of their presence as ability to subscribe a share, by having neither shares nor entrance fee. The subscription of shares and the payment of dividends were

[1] Fay, op. cit., p. 19. [2] Ibid., p. 42. [3] Ibid., p. 22: Wolff, "People's Banks," p. 87.

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indeed made compulsory by the law of 1889, but the Raiffeisen societies continued to observe the spirit of their founder's teaching by making the shares as small as possible, 10 marks being a usual figure, and by voting their dividends once for all to a second reserve or "Stiftungsfond." The ordinary indivisible reserve fund is administered on the same lines as in the Schulze banks, though it is as a rule smaller even in proportion to the size of the banks, as it has been the custom to apply part of the profits of working to the reduction of the rate of interest on loans, which, for this reason, stands, on an average, about 1 per cent less in the country than in the towns.[1]

Unlike Schulze, Raiffeisen laid much stress on the moral and religious character of his banks. Owing to this and to the smaller business transacted the administration is almost entirely unpaid. The management rests in the hands of a committee of five, while to a council of inspection is intrusted the duty of auditing accounts and supervising the committee. Both bodies are elected for a period of years by the members, and on both the richer members, on whom in case of failure would fall the chief burden of the liability, are allowed by tacit consent to take the leading part. The services of the members of both committee and council are given without remuneration of any kind, the only paid official being the "rechner," or accountant, a nonmember appointed by the committee.

Funds and advances.—The funds with which both systems of banks carry on their business consist of (1) share capital and reserve funds, (2) deposits, (3) loans from central banks.

As regards the first item, the proportion derived from this source is, of course, far larger in the case of the Schulze than the Raiffeisen banks. Deposits, which are received both from members and nonmembers, may be either small savings accounts, deposits proper ("Depositen"), or drawing accounts. The first type form a steady and comparatively cheap source of working capital.[2] The rate of interest allowed averages about 3 to 3½ per cent, varying with the length and notice of withdrawal. This is usually considerable, and rightly so, as the class from which these deposits are drawn is one that is peculiarly prone to panic. Their great merit is that being largely the savings of nonborrowers they are not so likely to be withdrawn just when they are most required. Deposits proper differ from savings deposits in being usually of larger amount and subject to shorter notice of withdrawal. The current account is increasingly used in the Schulze banks, but, as might be supposed, is of very small importance in the country banks.

Deposits are the mainstay of the German cooperative banks, and the ability to attract them is generally regarded as the surest sign of the stability and efficiency of a bank. But it is not to be expected that purely local banks, as both Schulze and Raiffeisen societies are, can always command deposits sufficient to satisfy the demand for credit, or, again, can always find among their members an outlet for all the funds at their disposal. They are thus constrained in the one case to borrow from outside, and in the other to lend their surplus funds where money is required. For these purposes a system of central banks has been evolved, whose business lies almost entirely

[1] Fay, op. cit., p. 44.
[2] In 1904 popular savings deposited in cooperative banks were computed at no less than 115 millions sterling out of a total of 961 millions. Wolff, "Cooperative Banking," p. 135.

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among cooperative banks. These are a very important feature of the cooperative banking system and will be considered further presently. The need for them, it may be noted, is more felt by Raiffeisen than by Schulze banks, because the former, drawing their deposits, as they do, very largely from a single class, and doing their loan business with the same class, are liable to greater fluctuations in the demand for credit than the latter, which deal with a variety of different industries and can thus hope to play off a boom in one against a slump in another.

Loans are principally granted against the personal pledge of one or two friends of the applicant. The successful manipulation of this form of security is the greatest achievement, as it is the sine qua non of cooperative banking. It is only possible when the bank's operations extend over only a small area, where the character and business transactions of the parties concerned are common knowledge; and its success is greatly facilitated where the area in question is served by but one bank, in which case the danger of "cross-firing" by mutual guarantee is easily avoided. In cases where this form of security is not available owing to the applicant being a newcomer in the district, or for any other sufficient reason, loans against negotiable securities or land mortgage may be resorted to. The Schulze banks also grant occasionally blank credits, where the stability of the borrower is beyond question.

The form of the loan is either the promissory note of the borrower or else simply a bond or undertaking to repay. The former plan is often preferred, as, in case of failure to repay, the legal process of recovery is simpler, while the note, being negotiable, can, if necessary, be rediscounted with the central bank. The Schulze banks also discount trade bills and grant cash credits on current account, but such forms of advance are of course little required in purely agricultural districts.

The normal term for loans in the Schulze banks is three months; renewals being, however, frequently allowed. In the Raiffeisen banks, for reasons which have already been considered, the periods are much longer, the minimum being about a year, while loans for as long as 10 years are not unknown. An important feature of the Raiffeisen system, however, is that loans can always be called at four weeks' notice, though this right is never enforced, except when repayment is seriously endangered by gross extravagance on the part of the borrower or misapplication of the money lent. Members of the Raiffeisen banks, when applying for loans, are always required to state the purpose for which the money is wanted, and if the application is granted, it is so on the distinct understanding that the money is used for the purpose stated and for no other. Loans are commonly repaid by installments, covering both principal and interest on a plan of amortization.[1]

Central banks.—The functions of central banks have already been touched upon. Their establishment was found necessary both for the purpose of balancing the resources of the banks of the system, at the head of which they stand, lending to those which require money and borrowing from those which have it to spare, and also, as the business of the local banks developed, to act as clearing and collecting agents.

[1] Fay, op. cit., p. 48.

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Raiffeisen instituted the first central bank,[1] the Rheinische landwirtschaftliche Genossenschafts-bank, as a registered association with unlimited liability, like the individual societies, in 1872. This bank was, at the instigation of Schulze-Delitzsch, dissolved by the courts. Schulze opposed the foundation of central banks both generally on the ground that cooperative societies should be self-sufficient, autonomous bodies, and in particular because it was undesirable that cooperative societies should themselves become members of other cooperative societies organized likewise on the basis of unlimited liability. Raiffeisen, accordingly, in 1876, founded the Landwirtschaftliche Centraldarlehenskasse für Deutschland at Neuwied as a limited liability company. His action was indorsed by the law of 1889, which specifically allowed cooperative associations to become members of similar societies provided the latter were organized on the basis of limited liability. In addition to the Centraldarlehenskasse and its branches, a number of provincial central banks (Provinzialkassen) have since come into existence. The Centraldarlehenskasse does no other business beyond that with the local societies, and its expenses are defrayed out of the margin between the 3¾ per cent charged for loans and the 3½ per cent[2] allowed on deposits.

In 1895 a State central bank, the Preussische Central Genossenschaftskasse, was established for cooperative societies—productive as well as credit societies—in the Kingdom of Prussia. Its purpose was to become the head of the existing "thus far headless" organization, for besides the Central Loan Bank there were a number of other central banks for different groups of Raiffeisen banks.[3] The Central Genossenschaftskasse does business not with individual societies, but only with Provinzialkassen.

The Schulze-Delitzsch banks have never developed an elaborate centralizing organization such as that of the Raiffeisen system, but do business individually with the Dresdner Bank, which has absorbed their earlier central bank, the Deutsche Genossenschaftsbank. The relations of the individual societies to the Dresdner Bank, are, however, far looser than those of the Raiffeisen societies to the Prussian Central Bank. The Dresdner Bank does not insist that societies should deal with it exclusively, though it prefers that they should.[4] The Prussian Bank, on the other hand, makes it a condition that banks dealing with it should deal with no other independent bank.

An interesting feature of the higher organization of the Raiffeisen societies is the close connection between the banks and noncredit societies. The credit society is, in fact, used as the channel for the supply and sale of agricultural commodities, though in the case of larger districts, where business is on a sufficiently large scale, the departments are often kept separate. Cooperative dairies, however, and other productive societies are kept distinct. The great advantage of this interconnection of credit and noncredit cooperative associations is, of course, the economizing of expenditure. But where the two forms of activity can profitably be worked separately, this would seem the better course, on the general principle of "ne

[1] Bulletin of the Bureau of Economic and Social Intelligence, July, 1911, Article on Central Banks.
[2] Wolff, "People's Banks," p. 143.
[3] The term "Raiffeisen banks" is used here, and indeed throughout, to include banks of the Raiffeisen type, such as the Haas banks, not actually adhering to the Raiffeisen organization.
[4] U. S. Monetary Commission, Volume of Interviews.

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sutor ultra crepidam," and also for the economic reason that while the operation of the banks must be confined to a single parish, that of supply, or sale societies, may more profitably embrace a larger area.

Finally the questions arise: How far have the German credit banks succeeded? How far have they justified the hopes of their founders that through them credit would become accessible to the poor man as to the millionaire?

In the first place, as regards mere material success, there can not be two opinions. Out of the few small banks which Raiffeisen and Schulze started midway through the nineteenth century, there has grown up a vast system of more than 15,000 separate offices of which over 13,000 are of the Raiffeisen type. The ordinary commercial standards of prosperity hardly apply, but as a whole the management has been efficient, and most of the banks are on a sound financial footing, while it is claimed that there has not in either system been a single failure—a truly remarkable achievement in view of the difficulties which they have had to contend with. In the case of the Raiffeisen banks, however, it must be admitted that the policy of the management has not always been free from blemish, the mistakes which have occurred being chiefly due to unwisdom of the very kind of which mention has just been made, namely, that of combining cooperative purchase with credit.

The question as to how far the banks have succeeded in keeping themselves accessible to the poor man is more controversial. The Schulze banks have, in particular, been charged with falling away from the ideals of their founder in this respect. There would seem to be some justice in this accusation, for the banks have come to fill in some degree the place occupied in English provincial towns by the branches of joint stock banks. Perhaps, too, it would have been wiser had the banks passed a self-denying ordinance limiting dividends to, say, 5 per cent, though it can not be said that dividend hunting has been the practice, still less that it has been pursued at the expense of reserve funds. The fact, however, remains that these banks lend at a rate nearly 1 per cent higher than that charged by the Raiffeisen banks. To the strong religious spirit with which Raiffeisen inspired his organization this tribute at least must be paid, that his societies have never turned to profit seeking at the expense of their poorer members, while the Haas societies, which seceded on the religious question, have in this respect remained faithful to the teaching of their founder.

FRANCE.

Unlike the agricultural credit-society system of Germany which, as we have seen, grew up gradually by natural evolution from small beginnings, to develop finally into a complex organism of societies, provincial unions, and central banks, the French Crédit Agricole was the creation of a moment, issuing, Minerva-like, fully-equipped from the brain of the statesman.

The Crédit Agricole was not, indeed, by any means the first attempt which had been made in France to solve the problem of agricultural credit. Numerous schemes had been evolved, all to be overtaken by failure, except perhaps the least ambitious, that of M. Durand,[1]

[1] Wolff, "People's Banks," p. 429, seq.

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which therefore deserves passing notice. M. Durand's system of credit societies is a close imitation of the Raiffeisen system, and, like it, is permeated with religion. M. Durand is a pronounced Roman Catholic, and it is, according to Mr. Wolff, the well-known attitude of the State toward Romanism in France which has impeded the growth of the system. However that may be, it seems to have reached the limit of its expansion, though it has reached a position of not inconsiderable importance and continues to prosper.[1]

The State-endowed Crédit Agricole Mutuel was founded as recently as 1899, and while it is thus impossible to estimate its results with any finality, its unique constitution renders it of great importance to the student of agricultural credit. The groundwork of the system consists of a number of individual societies organized on the principle of Raiffeisenism. In the large majority of cases the liability of members is unlimited, though limited liability is allowed. Each member takes up one or more shares of 20 francs, on which only 5 francs need be paid up at the start. The sphere of operation of these societies or "caisses locales" is a commune. Each society when it is founded makes over the whole of its capital to the central bank or "caisse régionale" of the department in which it is situated. These caisses régionales are, unlike the individual societies, actually established by the State. They are under the control of the Crédit Agricole, which appoints officials to inspect them and to which they send their accounts and copies of the minutes of their boards.

The funds for the financing of the scheme are largely supplied by the State, which, as a condition of the renewal of the charter of the Banque de France in 1897, enacted that the bank should lend, without interest, a sum of 40 millions of francs for the purposes of agriculture, and should in addition furnish a further annual sum by way of tax for the same purpose. The amount of this latter contribution, which depends on the average bank rate for the year, amounts usually to about 5 millions of francs. These funds are dispensed through the channel of the regional banks. The latter, as we have seen, receive their capital from the local banks, and as soon as this is made over to them they are entitled to a loan free of interest from the State of four times the amount subscribed. From these funds the regional banks lend to the local offices at 3 per cent, and the local offices in their turn lend to their members at 3½ to 4 per cent. The process by which this is done is as follows: An application for a loan is considered in the first instance by the "conseil" or administrative committee of the local office, which is elected by the members. If approved, the application is then submitted to the committee of the regional bank, which is elected by the representatives of the local banks in its district. If the latter finally pass the loan, the applicant draws a bill on himself for the amount sanctioned. This bill is then indorsed on behalf of the local office and discounted by the regional office. Should the latter, however, not have sufficient funds for the purpose, it may again indorse the bill, which will now have three names, and can therefore be rediscounted with the Bank of France. Thus the funds at the disposal of the regional office are not limited to the amount furnished by the Government. It should be noticed, however, that the process of discounting with the bank leaves no

[1] Wolff (loc. cit.) gives the number of banks as about 800, with an average membership of about 40.

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margin of profit to the regional office. These bills usually run for three months, but may be renewed for further periods of three months, provided the total period of the loan does not exceed two years, and that one-half is paid off at the end of the first year.

It will be apparent from this sketch of its machinery that the Crédit Agricole is a highly centralized State-endowed institution, and, skillfully though it has been managed, it does not escape from the defects natural to such a system. In its desire to force the pace the Government has been compelled to rely as little as possible on the inexperience of the farmers, and has therefore formulated stringent rules governing the granting of credit. Loans are granted solely for agricultural purposes, which are set forth in elaborate schedules, together with the amounts appropriate to each. Little encouragement is thus given to the members of the societies to appreciate the true value of money or to acquire experience in the management of the bank. Again the finance of the scheme leaves something to be desired. The "caisses régionales" are intrusted not merely with a State contribution of four times the amount of their capital. They may increase their liabilities almost indefinitely by discounting with the Bank of France. M. Décharme himself gives an instructive example of this[1] when he describes how, during a recent crisis in the wine-growing district of Montpellier, the regional bank, with a capital of a million francs, lent, in all, sixteen millions, being eleven millions over and above its own capital and the proportion lent by the State. M. Décharme quotes this incident with evident approval, but whatever be the merits of the particular case, it is difficult to believe that such a policy might not lead to a dangerous collapse. It is true that the "conseil" of the regional office watches over the local banks, and that the regional office itself is subject to the supervision and inspection of the department, but it is doubtful whether such surveillance from a distance is as effective as the interested vigilance of the Aufsichtsrat of the Raiffeisen society.

It would seem, however, that the authorities are not insensible to the dangers of State endowment, for the hope is expressed that the bank's loan of forty millions, though not the yearly contribution, will ultimately be repaid. To do this a large increase in the deposits, which at present are small, is essential, and this in view of the well-known thrift of the peasantry should not be impossible, if the inveterate habit of hoarding can gradually be broken.

In spite, however, of the defects of the system the results are not discouraging. There are now regional banks in every department, and the local offices number nearly 3,000, with an average membership of between 40 and 50. The average credit per member per annum is about 500 francs, but the whole amount placed at the disposal of the Crédit Agricole by the State has not been required, and it has been necessary to find other outlets for it.

Other Countries.

We have considered the German and French systems in some detail—the former not only because it was the first in the field and has reached a higher pitch of development than that of any other country, but also because every other system of agricultural banks

[1] Loc. cit., p. 513.

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has been to a large extent consciously modeled upon it and derived from it, the latter because it is the example par excellence of a State-controlled system. Several other European countries, however, notably Italy, Belgium, and Austria-Hungary, are provided with more or less efficient, if as yet inadequate, systems of credit societies. These all follow the Raiffeisen type closely and can only be briefly alluded to here.

The experience of Italy is interesting, because in no other country, probably, has Raiffeisenism had such overwhelming difficulties and obstacles to contend against. The poverty and ignorance of the peasantry were, and still are, almost incredible, while everywhere the land was in the grip of the usurer. In spite of this, however, the system has won its way with notable success. It was in 1883 that Wollemborg, the Raiffeisen of Italy, started the first "cassa rurale" with 32 members at Loreggia. Since then great progress has been made, and there were in 1908 at least 1,500 banks,[1] a large proportion of them of Catholic foundation, having loans outstanding of over a million and a half sterling, and deposits of no less than two millions. Each member subscribes a share of one or two lire, and pays also a small entrance fee, this latter feature being a departure from strict Raiffeisenism. The total share capital amounted in 1908 to nearly £20,000 and the indivisible reserve funds to more than twice as much.

In Belgium, too, Raiffeisenism has been finally adopted as the solution of the agricultural credit question. An earlier attempt was made, somewhat after the fashion of the French Crédit Agricole, to pump down credit by means of the Comptoirs Agricoles, which are agricultural commissions, acting as intermediaries between the National Savings Bank, which provides the funds, and the small farmer who is to be thus tempted to borrow. This institution, however, has failed altogether to reach the small man, and its business now consists in providing mortgage credit for well-to-do landowners. The first Raiffeisen bank was founded in 1892 by the Abbé Mellaerts, and the system has rapidly spread since then. In 1908 there were[2] 584 "caisses locales," mostly, as in Italy, of Catholic complexion, with an average membership of between 40 and 50. There are also seven "caisses centrales," or central banks, which perform the two functions of inspecting the local banks affiliated to them, and acting as agents between the latter and the Caisse générale d'Epargne, which lends to them on bills indorsed by the "caisse centrale." Only the largest of these central banks, the "Boerenbond," has become a Centralkasse, in the German sense, receiving deposits from, and making advances to, the local banks without the aid of the savings bank. It may be remarked that the State makes a grant of 100 francs to each bank, toward its foundation expenses, besides contributing annually 25 francs to pay for inspection and audit.

We have now completed our brief survey of the systems of rural credit existing in the chief European countries. We find that in every case the basis of the system is the Raiffeisen credit society, but that the superstructure, the organization by which the individual societies are coordinated, differs considerably in the various instances, both in point of development and in the degree of control exercised by the State.

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[1] Wolff, "People's Banks," p. 331. [2] Ibid., p. 332.

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The Case of England.

We come now to the case of England. In England there is as yet nothing which can be dignified with the name of a system of agricultural credit banks. "The few societies," says Conrad, "exist really only on paper."[1] The same remark applies also to noncredit agricultural societies. The state of affairs is not that of Denmark, where cooperative societies for supply and for sale of produce abound, but banks are unknown. In England, the country of Robert Owen and Holyoake, the birthplace of urban cooperative societies, strange as it may seem, agricultural cooperation has hitherto been a failure.

We are thus faced with the question, Why is it that in England alone of the important countries of Europe rural cooperation has not succeeded? The answer to this question will carry us some distance at least toward the solution of the further questions with which we are most concerned, namely: Do the conditions which have hitherto prevented the establishment of an agricultural credit system still prevail? And, if not, what kind of system is most suited to the present conditions?

The most important circumstance which has militated against the development of agricultural cooperation in England is the system of land tenure which prevailed throughout the nineteenth century. England is a country of large properties and of large holdings. During the first half of the last century, when corn growing was the most profitable form of agriculture in western Europe, large holdings were economically most suitable, and England was consequently looked upon as the model agricultural country. With the opening up of the trans-Atlantic markets, however, the competition of the United States, Canada, and the Argentine cut severely into the profits to be derived from the growing of cereal crops in Europe. Hence, in England large tracts of arable land were converted into pasture. The quantity of live stock and the output of dairy and market-garden produce has increased during the period, but even here in consequence of improved methods of transport and storage the effects of competition are severely felt. The conversion of arable land is, in the opinion of competent authorities, not likely to go much further, owing to the curtailment of the proportion of grain available for export from North America; but it is becoming increasingly apparent that the English farmer "has his only assured market in products like milk and high-class fresh fruits and vegetables which must be supplied close to the place of consumption."[2]

Now, it is in the producing of just this class of commodity that the small holding has economic advantages over the large holding. In the normal case the large farmer can produce more profitably than the small farmer for just the same reasons that the large manufacturer can produce more profitably than the small manufacturer, namely, because he has a larger command of capital, because he can effect economies in working, and because he is in a better position for bargaining. But where the individual care of plants is such that it can not well be left to subordinates, or where the operations can not

[1] Conrad, "Handwörterbuch der Staatswissenschaften" sub. tit., Darlehnskassenvereine.
[2] "Quarterly Journal of Economics," May, 1910, article by C. R. Fay on "Small Holdings and Agricultural Cooperation in England."

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be reduced to rule, the economic positions may be reversed. It is generally held by agricultural economists that this argument applies to the case in question. So cautious a thinker as Prof. Marshall, for instance, says: "Very small holdings have great advantages whenever so much care has to be given to individual plants that machinery is out of place; and there is reason for hoping that they will continue to hold their own in raising vegetables, flowers, and fruit."[1]

That this analysis of the economic forces is substantially correct is borne out by the fact that the large farms of 300 acres and over are giving place, particularly in the eastern counties, to a smaller type of from 50 to 300 acres, chiefly devoted to cattle raising and dairy farming, while the still smaller class of 5 to 50 acres has at any rate ceased to diminish. Further, this change in the agricultural conditions has found expression in the increasing demand for small holdings, to which legislative effect has recently been given by the small holdings and allotments act of 1907. This act empowers the county councils to acquire, compulsorily if necessary, land suitable for small holdings (5 to 50 acres) and allotments (under 1 acre), which the applicants hold as tenants of the county council. It is impossible to say at present to what extent the act will be successful, but numerous applications have been approved and not inconsiderable areas acquired.

Thus the case of England, as regards land tenure, stands in sharp contrast to that of the chief continental countries, where, in the face of adverse economic conditions, small proprietorship was kept alive by the legislature for social reasons, while with the opening up of the New World it has been favored by the circumstances we have just mentioned.

It is obvious that in a country of large holdings cooperative credit banks are not likely to succeed. Well-to-do farmers have no need of special facilities for obtaining credit; they are strong enough to make use of the town banks, and, as experience has proved, they are averse to cooperative methods.[2] We have thus one very cogent reason why cooperation, so successful under continental conditions, has failed in the past in England. Our reasoning also gives us prima facie ground for supposing that with the changing conditions in the latter country the impediments to cooperation are passing away. Another point, however, remains for consideration. The small tenant farmers of England are not in the same position as the small proprietors of the Continent. The former are normally without security of tenure. Their tenancy is liable to be ended at short notice. In many cases, no doubt, this possibility is remote, and a tenant may in practice have reasonable fixity of tenure together with, perhaps, actual advantages over the small proprietor. In other cases, however, the possibility is much less remote, and the effect of its existence is to deter tenants from spending that amount of labor and of capital, whether borrowed or otherwise, on their holdings which they would spend were the conditions of tenure otherwise. But here, again, the recent course of events has introduced changes. In the first place, tenants of the county councils under the small holdings act are likely to have considerable security of tenure, as the land they occupy has been acquired and must be used solely for the purpose of small

[1] "Economics of Industry," Book VI, ch. 10.

[2] See Fay, "Cooperation," p. 206.

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holdings. Secondly, recent legislation has instituted compensation for improvements. A tenant who improves the value of his holding by his own care and at his own expense is no longer faced with the risk, perhaps varying in the direct ratio of his efficiency, of losing his holding and with it the capital sunk in it, or, in the alternative, of paying rent upon his own improvements.

It would appear, therefore, that the agricultural conditions in England are becoming very much more suited to the growth of a system of cooperative banks than they were in the past. Indeed, it is urged with much plausibility that without cooperation, both for credit and other purposes, the small-holdings movement is doomed to failure; for it is only by noncredit cooperation that the small holder can profitably convey his produce to the markets and secure a fair price for it on its arrival, and it is only by cooperative credit that he can find adequate capital to develop his land and can withhold his goods from the market during a period of temporary depression.

It is very possible, however, that agricultural credit banks will not reach the pitch of importance which they have attained in Germany and elsewhere, and it is certain that their progress, if healthy, can only be slow. Experience has shown that the chief difficulty which those who have attempted to establish such banks have had to contend against is the suspicion with which they are regarded by those who have most to gain from them. The average farmer does not like his business dealings or his financial position to be known by his fellows, and the better class man has a rooted and very intelligible objection to borrowing. A writer with a wide experience of these matters writes of one particular attempt. "The usual difficulty is, however, encountered; the tenants dislike having to find sureties and the publicity involved in an application for a loan to a committee." [1] Conrad goes so far as to suggest that the English character (Volkscharakter) is unfavorable.[2] This, however, is a dangerous line of argument. Little progress of any kind would be possible were natural conservatism always magnified into an insurmountable obstacle. Probably educational work would do much to smooth over these difficulties. There is no reason why the small farmer should not learn—as the small business man has long since learned—the difference between borrowing for productive purposes and borrowing for consumption. And as to the publicity involved it can only be urged that its unpleasantness, which should not be so very great in a properly conducted society, is far outweighed by the advantages of the system. Still, the difficulties must not be underrated, especially as in England to-day the driving force of necessity will render less aid than it did to Raiffeisenism in its early days.

We come now to the practical question—granting the desirability of providing credit facilities for agriculture, what type of bank is best suited to English conditions? A complete answer to this question is from the nature of the case impossible, for a social institution of organic character can only grow up gradually, advancing along the line of least resistance. Little, therefore, can be said of the higher organization of the system, which should come into being, as in Germany, by a natural process of evolution as the need for it is felt, not, as in France, on a predetermined plan to which the societies

[1] Miss L. Jebb, "Small Holdings," p. 227. [2] Loc. cit.

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must learn to adapt themselves. Possibly a modus vivendi with the joint stock banks may be established by which needless competition and duplication of machinery may be avoided to the mutual benefit of both parties. As regards the societies themselves, it would seem fairly plain that they must approximate closely to the Raiffeisen type. As we have seen, this type of society has been universally adopted on the Continent, and in every case it has succeeded, while attempts on different lines have always sooner or later met with failure. In fact, the experience of other countries has no alternative model to offer. The Schulze-Delitzsch type of bank, though many of its members are agriculturists, does not really meet the case. It is only suited to more or less populous urban districts and for success requires a strong industrial element among its members. Nor does it satisfy the needs of the really "small" man, with whom we are here most concerned, while in England it would stand no chance in face of the competition of the already established joint stock banks. The Raiffeisen system has this further advantage 'that it has in recent years been tried with success in Ireland, while in England too such banks as exist are based upon this model.

The experience of Ireland is in some respects more valuable for England than that of continental countries, for in spite of differences of racial character and land tenure, the general conditions obtaining in the two countries are not dissimilar, while the legislation governing cooperative societies is identical. The Irish societies are organized closely on Raiffeisen lines. Applicants are admitted to membership if they are known to be sober, honest, and industrious. Poverty, provided it is not the result of the absence of these qualities, is no bar. The members are jointly and severally liable for all the debts of the society and liability continues for a year after cessation of membership in respect of debts incurred before that event.[1] Borrowers must be members of the society and must state the purpose for which the loan is required. The usual security required is the bond of two sureties guaranteeing the repayment of the loan with interest at maturity or immediately in the event of its misapplication. The funds of the societies are derived from three sources: Firstly, deposits of members and others which receive interest usually at 3½ per cent; secondly, from joint-stock banks which have advanced money at 4 per cent irrespective of bank-rate fluctuations; thirdly, from the department of agriculture and the congested districts board.[2] In 1908 the sums received by the banks from these sources were £20,000 from depositors, £15,000 from joint-stock banks, £1,000 from the department, and £6,000 from the board.[3] The societies in that year numbered 268, with an aggregate membership of 17,400.

The English societies were, at the end of 1910, 40 in number. They are nearly all affiliated to the Agricultural Organization Society, and the rules by which they are governed are much the same as those of the Irish societies. The Journal of the Board of Agriculture for December, 1911, gives figures relating to 31 of these societies. The aggregate membership of these was 663 in 1910, an average of 21 as compared with the Irish figure of 65 for 1908 and the German figure of 88 for 1905. The average amount of credit per member granted

[1] Report of select committee of H. L., 1910, p. 12. [2] Ibid., pp. 22, 27.
[3] Debate in House of Commons, July 7, 1910, Speech of Mr. Hugh Barrie.

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during the year was little more than £2, comparing with about £25 for the Raiffeisen banks in Germany. Two or three of the older societies appear to be in a flourishing condition, and have accumulated considerable reserves, but in the large majority of cases the results are as yet very meager. It is, however, only fair to point out that all except 6 of the societies have been founded since 1904, while the three years 1908–1910 have seen the birth of 27 societies. On the other hand, the report referred to deals only with existing societies, and gives no indication of the number of those which have failed to survive their infancy. The funds of the societies are derived almost wholly from deposits of members and others and from advances by the joint-stock banks, the proportions for 1910 being £1,089 from depositors and £488 from the banks. In England no funds have as yet been received from Government sources, though to judge from a recent speech of Lord Carrington[1] large amounts are likely to be placed at the disposal of cooperative societies from the development fund. This policy is also foreshadowed by the agricultural credit and insurance societies bill introduced during the past session in the House of Lords, which provides that the board of agriculture may out of the small holdings account "make grants upon such terms as the board may determine toward the cost of formation of the society or the payment of the expenses of management of any recently formed society."[2] This proposal has been strongly opposed by Mr. Wolff and the other leaders of the movement, and, if a permanent subsidy is intended, it would seem, in accordance with the opinion already expressed in this essay, to merit their condemnation. The section of the agricultural credit societies bill just quoted, however, certainly implies that the grant is intended merely to encourage the formation of societies without holding before them the prospect of any further assistance when once they are in full working order. If this principle be rigidly adhered to, we may, perhaps, on the analogy of the "infant industry" argument, regard such aid as free from objection. Probably there would be less risk of abuses in this connection were the concluding words of the section omitted and the proposed assistance granted only "toward the cost of formation of the society." As a further safeguard the grant might be withheld till the end of the first year's working of the society, being then allowed, conditionally upon efficient management and promise of success, as a contribution toward the extinction of the probable initial deficit.

A more satisfactory feature of Lord Carrington's speech was his announcement that he had been assured by the representatives of the principal joint-stock banks that they would be prepared to lend money to the credit societies. It would undoubtedly be better from the point of view of the ultimate good of the societies themselves were they to supplement the deposits intrusted to them from this source rather than by means of State loans carrying a low rate of interest. No doubt the English banks would make the same concession as the Irish banks, of lending at a fixed rate independent of market fluctuations; and under the overdraft system the societies would be able to satisfy their requirements without keeping any considerable sum lying idle, which, of course, they could not afford to do.

[1] At Crystal Palace, Oct. 18, 1911.

[2] Sec. 2 (1).

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It is significant that in Ireland the board of agriculture has in several instances failed to secure the repayment of its advances, while no such difficulty has been experienced by the joint-stock banks. It is suggested that Irish agriculturists are disposed to regard a Government loan as a Government grant, and possibly this sentiment might be found not to be confined to Irishmen. Be that as it may, it can not be too strongly urged that it is only if they are regarded as businesses and not as charitable institutions that cooperative credit banks can hope to achieve lasting success. Accordingly, let the Government promote their success as far as it can by the establishment of technical colleges, by the demonstration of scientific methods and model holdings, and by educational work in general, but as little as possible by the promise of financial support.

As has already been pointed out, both the Irish and the English credit societies—excluding those which add to their main non-credit business that of granting credit to members—are organized in accordance with strict Raiffeisenism on the basis of unlimited liability. Raiffeisen laid great stress on this for two reasons—first, because the peasants with whom he had to deal were so poor that they were unable to subscribe even small shares, and their liability to the extent of their property, representing in most cases little more than the "equity of redemption" of their heavily mortgaged farms, was therefore the only asset on which to raise the necessary capital; and, secondly, because by this means he hoped to instill into them a fit sense of responsibility and caution. Undoubtedly in the circumstances in which he found himself Raiffeisen was right. But it is by no means so certain that the English cooperators are right in following him in this respect. The German farmers, among whom Raiffeisen worked, were so deeply involved in debt already that they had no hesitation in pledging the little that was left to them in return for the chance of freeing themselves from the clutches of the money lender. The English farmer, on the other hand, is comparatively unversed in credit dealings, and for that reason the more afraid of unlimited liability. Evidence is not lacking to support the view that men who have kept free from debt are apt, however poor they are, to shrink from making themselves liable without limit, however dazzling the prospect of gain may be. For instance, in the case of the Italian and Belgian "banques populaires," which are banks of the Schulze-Delitzsch type, the attempt to introduce unlimited liability proved a failure;[1] while in France, as we have mentioned, the caisses locales of the Crédit Agricole may be of limited liability. Nor does the fact that the unlimited liability type of bank has succeeded in Ireland prove anything to the contrary, for there the usury of the "gombeen" man was widespread, and the conditions in that respect more akin to those with which Raiffeisen had to deal.

It would therefore seem not improbable that a system of limited liability banks with partly paid-up shares would have the best chance of success in England. This arrangement would have the advantage of giving the bank a small capital to begin with, while there is no reason why the uncalled portion of the capital should not be sufficient security upon which to borrow. Indeed, there is an

[1] Wolff, "People's Banks," pp. 258, 261.

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instance upon record in which a large provincial bank offered to advance money to a cooperative society[1] on the condition that the latter should issue £1 shares with two shillings paid up, the number of shares taken up by each member to vary according to the acreage of his holding. If, then, the joint stock banks are content to follow this example and lend to this type of society, we may rightfully claim to have disposed of one of the two main arguments of the strict Raiffeisenist in favor of unlimited liability, namely, that it is essential for the raising of funds. The other argument is that without unlimited liability the members of a society might become careless as to whom they elected as members or selected to serve on the committee or inspection council.[2] As against the system of limited liability with fully paid shares this argument is no doubt valid, but in view of the very considerable, though strictly limited, liability to which every member would be exposed under the system mentioned it will hardly apply to that case.

It may be pointed out here that if, on experiment, this type of society proved more congenial to the English farmer, as we have suggested it may do, the need for legislation in the direction suggested by the committee of the House of Lords would no longer exist. A credit society which desires to combine the business of supply or sale with its banking business can not register itself as a "specially authorized society" under the friendly societies act, under which act all existing societies are registered. It may, however, register under the industrial and provident societies act, but in that case it must be a limited liability society. The committee came to the conclusion that it was desirable that small societies should have this power of combining banking with trading, and in order to give effect to their decision were forced to recommend the amendment of the law in the direction either of granting trading powers to specially authorized societies under the friendly societies act, or of permitting unlimited liability societies to register under the industrial and provident societies act. They chose the former alternative, but the provisions of the agricultural credit societies bill indicate that the latter was preferred by the Government. It will be seen that there is nothing to prevent limited liability credit societies from carrying on a trading business at present, and were they to displace the unlimited liability societies the proposed amendment of the law would be unnecessary. Its adoption, however, would have the advantage of allowing the two types to exist side by side under the same act until the "fitter" of the two ousted the other by a process of natural selection.

Within the limits of this essay it has been, of course, impossible to deal even cursorily with all the details connected with the organization of a system of agricultural credit banks, which deserve discussion. The question of the relative merits of the limited and the unlimited liability society has been treated at some length because it is not impossible that a modification of strict Raiffeisenism in this respect would be justified in England, though such modification would in no way amount to the invention of a new system. One further point, however, seems to deserve passing mention

[1] Soham Small Holders, Ltd., see "Quarterly Journal of Economics," May, 1910, loc. cit.
[2] Report of select committee of H. L., p. 11.

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because of its paramount importance. This is the question of the proper inspection and audit of accounts. It has been found difficult to impress upon the small agriculturist the necessity for the punctual and accurate keeping of accounts, particularly in the case of the smaller societies in which transactions are not of very frequent occurrence. A considerable number of the Irish societies were reported to the department of agriculture as unsatisfactory on this very ground.[1] The dangers of carelessness of this kind would be still greater in societies which combined a trading business with banking, and as it is only the smaller societies which are likely to carry on this combined business, it is evident that the need for proper inspection is very great. The Raiffeisen machinery for the performance of this office has already been described, but in Ireland the necessity for the committee of inspection has not been duly appreciated, while the Raiffeisen system of a union of societies for mutual inspection has not been adopted.[2] The experience of Ireland, therefore, would tend to show that independent inspection by a Government official is the most satisfactory way of dealing with the question, at any rate until the societies are numerous enough and strong enough to combine for this purpose.

Finally, we may sum up once again the chief reasons for regarding Raiffeisenism as the only possible solution of the problem of agricultural credit. The Raiffeisen system alone has been able to utilize satisfactorily the only security which the small agriculturist has to offer, namely, his personal pledge to repay, supported by the guaranty of men of his own class and standing. It alone has been able to perform all that is demanded of an agricultural credit bank without subsidy from charity or the State; not, indeed, without the assistance of the man of education and the philanthropist, but at least without his financial assistance, which alone could deprive it of that spirit of robust independence in which lies half its value. And this it has done, not in one country alone, or even in Europe alone, but throughout the civilized world wherever it has been tried, with a success that is beyond question and has all but silenced criticism. In this essay we have been concerned only with Europe, but we may conclude with the advice of one[3]—a civil servant of repute, be it noted, and no fanatic or blind reformer—who has spent years in establishing the same system among the ryots of India, "Find Raiffeisen!"

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[1] Report of Select Committee.
[2] Ibid., p. 14.
[3] F. A. Nicholson, "Report regarding the possibility of introducing land and agricultural banks into the Madras Presidency."

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 892.

CONDITIONS ON UINTA INDIAN RESERVATION, UTAH.

JOINT REPORT OF E. P. HOLCOMBE AND JAMES M. McLAUGHLIN, SPECIAL INSPECTORS IN THE INDIAN SERVICE, ON THE CONDITIONS FOUND BY THEM EXISTING ON THE UINTA INDIAN RESERVATION, IN UTAH, RELATING TO IRRIGATION AND OTHER SUBJECTS AFFECTING THESE INDIANS.

JULY 27, 1912.—Ordered to be printed.

UINTA INDIAN LANDS, UTAH,
September 30, 1911.

The SECRETARY OF THE INTERIOR,
Washington, D. C.

SIR: In accordance with departmental instructions of August 12, 1911, we submit herewith our joint report of conditions found affecting the Indians residing upon land in the former Uinta Indian Reservation, Utah.

MATTERS EXECUTIVE, LEGISLATIVE, AND STATISTICAL.

The Uinta Indian Reservation, Utah, was established by Executive orders of October 3, 1861, and September 1, 1867, and in 1901 it contained approximately 2,039,040 acres of land. (Report of the Commissioner of Indian Affairs, 1902, p. 609.)

By act of May 27, 1902 (32 Stat., 263), the Secretary of the Interior was authorized to obtain the consent of the Indians residing on the reservation to the allotment of their lands, the allotments to be made prior to October 1, 1903. This act provided that "all the unallotted lands within the reservation" should be restored to the "public domain," and persons entering the same under the homestead laws should pay therefor at the rate of $1.25 per acre, the proceeds to be used for the benefit of the Indians after the United States was reimbursed for moneys advanced to the Indians.

June 19, 1902, a joint resolution was passed authorizing the Secretary of the Interior to set apart for the use of the Indians in common such amount of nonirrigable grazing lands as would subserve the reasonable requirements of the Indians for the grazing of their livestock.

Act of March 3, 1903 (32 Stat., 998) made an appropriation for the survey of the land, for the purpose of carrying out the provision of the act of 1902 and the joint resolution of June 19, 1902, and this act limited the amount of grazing lands, to be reserved, to 250,000 acres.

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Act of April 21, 1904 (33 Stat., 207) made a further appropriation for the survey, etc., and extended the time for the opening to March 10, 1905. Act of March 3, 1905 (33 Stat., 996) further extended the time for the opening to September 1, 1905, unless the President determined upon an earlier date.

The act of March 3, 1905, restricted entries of the unallotted and unreserved lands to the homestead and town-site laws, and provided that all lands not entered after the expiration of five years should be disposed of for cash. It also authorized the President to reserve as an addition to the Uinta Forest Reserve, such portion of the Indian land as he thought necessary, and to reserve any reservoir sites—

or other lands necessary to conserve and protect the water supply for the Indians or for general agricultural development, and may confirm such rights to water thereon as have already accrued: *Provided*, That the proceeds from any timber on such addition as may with safety be sold prior to June 30, 1920, shall be paid to said Indians in accordance with the provisions of the act opening the reservation.

A commission was appointed April 3, 1905, to allot the Indians, but complete returns of surveys had not been received, and in some instances the commission had to resort to unofficial plats of field work. The work of the commission was completed, and the allotments to the Indians approved July 18, 1905.

July 14, 1905, the President issued a proclamation opening the lands to entry August 28, 1905, and by a proclamation of the same date he set aside as an addition to the Uinta Forest Reserve 1,010,000 acres of Indian land. The allotments to the Indians aggregated approximately 103,265 acres, and there were restored to the public domain to be disposed for the benefit of the Indians about 1,004,005 acres, or less than what was reserved for forestry purposes.

At the date of the opening of the reservation the Indians had approximately 6,000 acres of land under cultivation, and were entitled under the act of March 3, 1905, supra, to a confirmation of their water rights for this land. There was no confirmation of any water rights, nor were any lands reserved to protect the water supply for the Indians, but on the contrary the acting agent proceeded to file application for the appropriation of water under the State laws of Utah, and June 21, 1906, Congress passed an act (34 Stat., 375–376) authorizing the construction of irrigating systems to irrigate the allotted land, the limit of cost being fixed at $600,000, to be paid from the proceeds of the sales of the lands within the former Uinta Indian Reservation:

Provided, That such irrigation systems shall be constructed and completed, and held and operated, and water therefor appropriated under the laws of the State oi Utah * * * *And provided further*, That the ditches and canals of such irrigation systems may be used, extended, or enlarged for the purpose of conveying water by any person, association, or corporation, under and upon compliance with the provisions of the laws of the State of Utah: *And provided further*, That, when said irrigation systems are in successful operation, the cost of operating same shall be equitably apportioned upon the lands irrigated, and, when the Indians have become self-supporting, to the annual charge shall be added an amount sufficient to pay back into the Treasury the cost of the work done in their behalf, within thirty years, suitable deduction being made for the amounts received from the disposal of the lands within the former Uinta Reservation.

OBSERVATIONS.

The actual effect of the foregoing legislation, and the failure to reserve lands necessary to protect the water supply for the Indians, can best be presented by a statement of the cost, etc., to the Indians.

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September 1, 1911, there had been expended of Indian moneys (reimbursable appropriations) the sum of $664,926.83 in the construction of ditches and laterals. According to the report of the engineer in charge of the project there were, August 31, 1911, 87,880 acres of land under ditch, but whether this is all allotted Indian land is not apparent from the report. Since the construction of the several irrigation systems about 5,000 acres of Indian lands have been placed under cultivation by the lessees of Indian allotments, which, with the 6,000 acres under cultivation by the Indians before the opening, make an aggregate of only 11,000 acres that the Indians can to-day acquire water rights for under the laws of the State of Utah. The period within which final proof of appropriation can be made expires in 1914. The State engineer of Utah has the power, under an act of the last legislature, for good cause shown, to extend the period to 1919, and the present State engineer, we are informed, has expressed his willingness to extend the time should he be in office when the right of the Indians to make proof expires.

It is no reflection upon the State engineer to say that the department should under no circumstances rely upon an extension of time for the perfection of the water rights of the Indians. The Indians have invested a capital of nearly $700,000. If they fail to acquire their water rights by proof of beneficial use, their investments inures to the junior appropriators, who at the present time are making use of the canals constructed by the Indians to irrigate their own land, and without compensation to the Indians therefor. With adverse interests and large financial investments involved, the point of view in 1914 may not be the point of view of to-day, and the engineer who seeks election is not required to recognize rights other than those that are strictly legal.

The probability that proof of beneficial use of water by the Indian allottees will be made is so remote that the settlers are confidently predicting that they will perfect their junior rights, which means, if they do, that the Indians have donated the land, constructed the irrigation systems, and then retired. This may mean the development of that part of the State of Utah, but it will be at the absolute sacrifice of every moral right that the Indian possesses to lands set apart for his use and benefit. It means, that having offered the Indian the proceeds from the sale of the restored lands, the use of these proceeds in the development of lands that have passed into private ownership—the surrender of more than 2,000,000 acres of land without compensation.

To save the Indians their water rights is the one big thing that now confronts the department. To do this under the laws of the State of Utah it is necessary that the water should be applied to a beneficial use. The Indian must be made to cultivate his allotment or it must be cultivated for him, or the one great question that will appeal to the thinking public is, Did the department consider the contingency when it authorized the expenditure of more than half a million dollars of Indian funds that the Indians might receive no appreciable return therefrom?

RECOMMENDATION.

As the first step to protect the Indians, the position of Indian agent should be abolished and a superintendency created. The interests of the Indians should not be intrusted to any person having local

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affiliations or political obligations, and for that reason it is essential that he be appointed from the classified service.

Mr. Ernest O. Greene, the present chief clerk, has been recommended for the position by the former acting agent, Capt. C. G. Hall, and by the present acting agent, Capt. H. J. Brees. Mr. Greene is thoroughly familiar with conditions on the former Uinta Reservation, is a most capable office man, absolutely loyal, and eager to undertake the task that confronts the agent or superintendent who is placed over these Indians. It is our belief that Mr. Greene is probably the best equipped man for this position, and we recommend his appointment as superintendent.

SOME SIDE LIGHTS.

Referring to the reservation of 1,010,000 acres of Indian lands as an addition to the Uinta Forest Reserve, and the act of March 3, 1905 (supra), it is evident that it was the intention of Congress that these Indians should have the beneficial use of the reserved lands until 1920.

It appears from correspondence had with the Indian Office in September, 1906 (Land, 77124—1906), that the question of charging permittees on the forest reserve a toll for crossing the grazing lands of the Indians was considered, but the Department of Agriculture deemed it objectionable, expressing the opinion that the right to cross the reserved grazing lands of the Indians was only a fair exchange for the privilege that the Indians had of grazing 1,200 head of cattle on the forest reserve free of charge. If the Indians are entitled to the beneficent use of their own land reserved for forest purposes, we fail to see that there is any consideration for the privilege granted by them in allowing about 13.000 head of sheep to pasture along the streams and over their best lands in order to reach the national forest.

It further appears that the Forest Service is granting free-use permits to the settlers, irrigation companies, and others for the cutting of timber upon the Uinta National Forest. We are not advised under what authority of law this is done, but we are convinced that if the only market open to the Indians for the sale of such timber "as may with safety be sold" is furnished with free-use permits, it is at the expense of the Indians, and we recommend:

First. That the acting agent or officer in charge of the Uinta Agency be directed to charge persons who have permits to graze their stock on the national forest reserve a fee of $10 per thousand for sheep and $50 per thousand for cattle crossing the reserved grazing lands of the Indians.

Second. That the Agricultural Department be requested to discontinue the issuance of free-use permits for the cutting of timber on the national forest, excepting such permits as might be required by the Indians for their own use, or by the irrigation service for construction work for the benefit of the Indians.

We further find that under date of August 24, 1908, the acting Indian agent submitted to the Indian Office for approval a proposed form of legal agreement with the homesteaders for the use of the surplus water from Government canals. This recommendation was approved by the Indian Office September 5, 1908 (field work 59362-1908), but up to the present time not a dollar has been collected, nor has an agreement for the use of the surplus water been made with

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any homesteader, but the free and unrestricted use of the water and canals has been permitted.

Our attention was called to the alleged investment by employees of the Irrigation Service in Indian lands, and other irregularities on their part. September 28, 1911, we met Superintendent of Irrigation Howard C. Means at the office of the chief supervisor in Denver, and the substance of the charges made by Mr. J. J. Atkinson of Myton, Utah, was submitted to Mr. Means in writing; his reply thereto is inclosed herewith and made a part of this report.

It appears from Mr. Means's reply that he has purchased at public sale Indian land in violation of departmental regulations of June 29, 1909. Mr. W. N. Prease, draftsman under Mr. Means, admits to us that he (Prease) was interested in the purchase of inherited Indian lands adjoining the townsite of Myton, purchased in the name of Calvert and Waugh, and that there was a distinct understanding between him and Messrs. Calvert and Waugh that when patent issued he (Prease) was to receive from Calvert and Waugh a deed for an undivided fourth interest in the land. It was also alleged that Mr. J. H. Bryant, assistant engineer, was interested in the purchase made by Calvert and Waugh, but we did not see Mr. Bryant in reference thereto, though under date of September 28, 1911, he was requested by the chief supervisor to make formal answer to the charge, and the said answer will be submitted by the chief supervisor when received.

We recommend that patents to Indian lands purchased by Howard C. Means be withheld and the sales canceled and the money paid thereon refunded, the said sales being in violation of the regulations of the department. In this connection we advise you that the chief supervisor, under date of September 28, wired the Commissioner of the General Land Office as follows:

> Withhold patent on purchases of Howard C. Means Uinta Indian lands. Employee Indian service and purchases prohibited by approved circular June 29, 1909. Report to Secretary will follow.
>
> E. P. HOLCOMBE, *Chief Supervisor.*

Mr. Means admits being the owner of a number of town lots at Myton, and interested in other lots at Myton. He is also interested in lands purchased by him that were acquired under the homestead law. While there was probably no irregularity in his acquiring title to the homestead entries, and the purchase of the town lots at Myton may not have been contrary to departmental regulations, the purchase of the Indian lands at public sale was clearly a violation of the circular of June 29, and it is our belief that the financial interests of Mr. Means within the former Uinta Reservation are of such an extent as to render it inadvisable to continue him in the position he now occupies, and we recommend that his resignation, which he offers to tender, be requested.

We will make no recommendation in the case of W. N. Prease until reply is received from J. M. Bryant as to his connection with the alleged purchase of Indian lands. Mr. Prease is not an employee in the civil service, and we are not certain as to what extent he is bound by the regulations governing employees in the purchase of Indian lands; but it would seem to us that official propriety should

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prevent any employee from becoming interested, either directly or indirectly, in the purchase of inherited Indian lands.

We inclose herewith a diagram showing allotments, reserved and entered lands, on the Uinta Reservation. The allotted lands are shown in color as follows: Alive Indian allotments, purple; incompetent Indian allotments, green; dead Indian allotments, red.

It will be observed that the allotments made to Indians are bordering the several streams, and cover a territory probably 150 miles in length by 40 miles in width. It will also be observed that nearly one-third of the original allotments are subject to sale as inherited Indian lands, and there have already been sold to date by the heirs of deceased allottees and by noncompetent Indians a total of 5,095 acres for the sum of $114,741.22.

At the date of the opening there were approximately 1,250 allotted Indians. The present census is slightly in excess of that, though over 30 per cent of the original allottees have since died. It is apparent, therefore, that the continued sale of inherited Indians lands will leave the coming generation without lands, and it is our recommendation that all inherited Indian lands be withheld from sale so far as it is possible to do so without seriously affecting the financial interests of the heirs.

The military post that has been maintained at Fort Duchesne, we understand, will shortly be abandoned by the War Department. This post consists of six sections of Indian land reserved by Executive order, dated September 1, 1887, under the following conditions:

> *Provided*, That the use and occupancy of the land in question be subject to such rights, title, and interest as the Indians have in and to the same; and that it be vacated whenever the interests of the Indians shall require it, upon notice to that effect to the Secretary of War.

Should these lands no longer be required for military purposes they would upon being restored be unallotted Indian lands; and while they have never been restored to entry by any proclamation of the President, it is possible that they would instantly become subject to settlement as unallotted Indian lands and possibly subject to disposal at cash sale as other Indian lands of the Uinta Reservation. For this reason we believe it advisable that immediate reservation be made of these lands for Indian purposes.

At the present time Mr. John Charles, supervisor of construction, is making an inspection of the buildings at Fort Duchesne with a view of passing upon their suitability for agency and school purposes. Fort Duchesne is more centrally located than the present agency at Whiterocks, and is better adapted on account of its location for agency and school purposes, being 14 miles closer to the railroad and a day closer to mail from the East. The land is also much better than that reserved at Whiterocks for agency purposes, all being under ditch and perfected water rights.

All of which is respectfully submitted.

E. P. HOLCOMBE, *Chief Supervisor.*
JAMES M. MCLAUGHLIN, *Inspector.*

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DENVER, COLO., *September 29, 1911.*

Mr. E. P. HOLCOMBE,
Chief Supervisor, United States Indian Service, Denver, Colo.

DEAR SIR: I am in receipt of your communication of the 28th instant, relative to certain criticisms of my conduct of the Uinta work, made by J. J. Atkinson, while you were at Fort Duchesne recently, and I wish to submit the following in answer to them:

(1) The Myton Bridge was located by Capt. C. G. Hall, acting Indian agent, and myself, and approved by Mr. Charles. As soon as the bridge was located, or while the surveys were being made of the bridge site, the whole community knew of its location, and the local paper published the location. There was no question regarding the proper location by Capt. Hall and myself, but the approval was made by Mr. Charles after the maps and plans were submitted. I will say that surveys and soundings were made on two sites, and I believe the profiles and maps of both sites were submitted to the Indian Office, with our recommendation that the structure be located at its present site. Mr. Charles was then sent out to go over the site ground and his report concurred with ours. The lots referred to were purchased upon the suggestion of Mr. Atkinson and in his name and mine. They still are in the name of Atkinson and myself, each owning an undivided one-half interest, and were purchased after the location of the bridge was known to the community and general public.

(2) I purchased some land at the Provo sale. One 40-acre tract joined a piece of land I had purchased from a homesteader some time before that. The other piece was purchased on the advice of Fred Warner, as he stated a part of it was in the Duchesne bottom and was fairly good land. I will state that I have never seen this land, either before purchase or since that time, and at the present time I have no knowledge of what the land is.

I will state that I was unaware of the violation of any law or rule of the department at that time and until yesterday, when you called my attention to the fact. The land was offered at public auction and competition was invited. The sale was conducted by the land office in the presence of three or four hundred people, of which I was one. On the 40-acre tract there were perhaps 20 bids. I do not claim ignorance regarding the existence of the circular to which you referred yesterday, but assumed that it had reference to the sale of inherited Indian land under the sealed-bid plan.

(3) The homestead referred to was filed upon at the time of the opening of the reservation and subsequently relinquished, but not for the reason stated by Atkinson, that I was unable to hold it. I realized that I was being criticized for holding a Government position and a homestead at the same time, so I relinquished the homestead. The Government house was built while I held the land, and was to be used while the Indian ditches in that locality were being constructed. It has been used since for the purpose for which it was constructed.

The Indian Office has a complete record of the transaction ever since it was built, which has extended over a period of six years. The Land Office has a complete record of the house. Mr. Andrews filed an affidavit to the effect that he did not nor would not claim any

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right to the house before the patent to his land was issued. It is also carried on my property items for the Uinta work and is considered as any other Government property in my charge and for which I will be held accountable until duly disposed of in accordance with the instructions of the department. I have never held a mortgage on the house, as Mr. Andrews has never claimed any interest therein, and until recently have held no mortgage on the land. I have held Mr. Andrews's notes for the actual money I have loaned him from time to time. The existence of this house and the transactions relating thereto has been a matter of record ever since the house was built.

(4) I do not think Mr. Atkinson is in a position to state how many days J. L. Means worked during August, 1906. Means may have worked under Atkinson only 10 days during that month and worked the other 6 days somewhere else. The records of the survey office will show where he was employed, and if he was paid for 16 days he must have worked 16 days. During the 6 days he was not working under Atkinson he was working under some other foreman or timekeeper, which can be shown on the records at Fort Duchesne.

(5) J. M. Bryant was on his annual leave at the time referred to and it is a matter of record, both in the Fort Duchesne office and in the Washington office.

I regret that any criticism is made of my actions in regard to my connection with the Uinta work. I have invested some money in enterprises in the country, but have thought that I was entirely within my province in doing so, and will say that if the Indian Office considers that my actions along these lines will embarrass them in any way and open myself to criticism of any kind I will tender my resignation to take effect at any time the office may direct.

Very respectfully,

H. C. MEANS,
Superintendent of Irrigation.

SEPTEMBER 23, 1911.

Mr. HOWARD C. MEANS,
Denver, Colo.

DEAR MR. MEANS: During my visit at Fort Duchesne, Mr. J. J. Atkinson, formerly chief carpenter on construction work of the irrigating system for the former Uinta Indian Reservation, called on me and Inspector McLaughlin and in substance stated.

(1) That you had taken advantage, as engineer in charge, of official knowledge obtained by you in regard to the location of the Myton Bridge and had purchased a number of lots in the town of Myton.

(2) That you had purchased Indian lands at the recent sale at Provo.

(3) That you had made homestead entry of ceded Indian lands which you had improved by the erection of a Government building thereon; that being unable to hold said homestead you transferred your interests therein and retained a mortgage thereon.

(4) That you had carried your cousin, J. L. Means, on the pay roll as a carpenter during the month of August, 1908, for a period of 16 days, when, as a matter of fact, the said J. L. Means worked under him (J. J. Atkinson) for a period of 10 days only.

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(5) That you permitted Assistant Engineer J. M. Bryant to leave the service during the months of November and December, 1908, for a period of 26 days for the purpose of taking employment as engineer with the ditch construction company. That said Bryant accepted a position with the said construction company and worked for said company for a period of 26 days and was thereafter reinstated by you without deduction for loss of time.

I would be pleased to have you answer fully these charges of Mr. Atkinson.

Very respectfully,

E. P. HOLCOMBE,
Chief Supervisor.

SEPTEMBER 26, 1911.

Mr. J. M. BRYANT,
Assistant Engineer, Fort Duchesne, Utah.

SIR: Mr. J. J. Atkinson, of Myton, Utah, has reported to me and Inspector McLaughlin that you are the owner of an undivided interest of 80 acres of inherited Indian land adjoining the township of Myton, purchased in the name of Calvert and Waugh. He stated that his information was that the bid was filed by Calvert and Waugh and in their names with the distinct understanding that after patent issued Calvert and Waugh were to deed to you an undivided interest in the land.

I understand from conversation had with Mr. W. N. Praeso, draftsman, that as far as he was concerned such an arrangement did exist between himself and Messrs. Calvert and Waugh and that since patent has issued to Calvert and Waugh he has received from Calvert and Waugh a deed for an undivided fourth interest of said 80 acres of inherited Indian land.

I understood further from Mr. Atkinson that you were interested in some homestead land on the Uinta Reservation and in Myton town lots, and further that you were interested financially in the sale of the cement which entered into construction of the blocks for the superintendent's offices and buildings at Myton.

I will be pleased to have you answer fully the charges made by Mr. Atkinson as promptly as you can conveniently do so.

Very respectfully,

E. P. HOLCOMBE,
Chief Supervisor.

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 899.

VETO MESSAGE RELATING TO DAM ACROSS WHITE RIVER AT COTTER, ARK.

MESSAGE

FROM THE

PRESIDENT OF THE UNITED STATES,

RETURNING TO

THE HOUSE OF REPRESENTATIVES, WITHOUT APPROVAL, HOUSE BILL 20347, AND STATING CERTAIN OBJECTIONS THERETO.

AUGUST 6, 1912.—Read, referred to the Committee on Interstate and Foreign Commerce, and ordered to be printed.

To the House of Representatives:

I return herewith, without my approval, H. R. 20347, being a bill to authorize the Dixie Power Co. to construct a dam across White River at or near Cotter, Ark.

The White River, on which this dam is proposed to be built, is a navigable stream. In March, 1899, Congress adopted a project for the improvement of the navigation of the river from Batesville, Ark., upstream to Buffalo Shoals, by a series of 10 locks and dams. Of these, three have already been constructed by the Federal Government, and the Government is also engaged in improving the river by channel work in other portions. This bill proposes to authorize the construction of a dam at or near Cotter, a short distance above the portion covered by the aforesaid project of 1899, and situated well below Forsyth, Mo., which is generally considered to be the head of high-water steamboat navigation. The dam will increase the navigable capacity of the stream above it, and could be constructed so as to form a part of an extension of the above-mentioned projected canalization scheme below it. While the Board of Engineers for Rivers and Harbors has, in a subsequent recommendation, advised against the present prosecution of this project on account of the lack of present commerce in the river, it is quite possible, according to the report of the Chief of Engineers of the United States Army, that conditions may so change in the future as to lead to an extension of the lock and dam system as far as the site of the dam proposed by this bill.

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By a provision inserted into the bill since its introduction in Congress, it is provided that upon the expiration of the Federal permit the dam shall become the property of the State of Arkansas at the option of said State. In my opinion, this provision is likely to introduce serious complications in the orderly development of navigation in the river. The lower river is being improved by a series of dams belonging to the Federal Government. This dam, situated in the upper reaches of the river, is, according to the report of the engineers, capable of becoming a part of this general Federal improvement of navigation. To introduce a diversity of title into a series of dams which may all become eventually a part of a single improvement directed at the same end would, in my opinion, be highly objectionable. Furthermore, the policy of this provision would seem to be in conflict with the policy of the general dam act of June 23, 1910, by which, at the expiration of such a permit, the control and title of such a dam apparently vest in the Federal Government, as pointed out in the recent final report of the National Waterways Commission, page 57.

The bill also fails to reserve to the Federal Government any right to receive from the grantee of this privilege any compensation therefor to be used in the interest of furthering the navigation of said river. This is a subject to which the National Waterways Commission has given much study and made urgent recommendations, and in regard to which the Secretary of War has, with my approval, written a letter, under date of July 30, 1912, to the chairman of the Committee on Interstate and Foreign Commerce of the House of Representatives. In view, however, of the serious objection to the bill, contained in the provision which I have already discussed, I do not deem it necessary to enter into a discussion of this feature of the bill.

WM. H. TAFT.

THE WHITE HOUSE, *August 6, 1912.*

[H. R. 20347, Sixty-second Congress, second session.]

An act to authorize the Dixie Power Company to construct a dam across White River at or near Cotter, Arkansas.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Dixie Power Company, a corporation organized under the laws of the State of Arkansas its successors and assigns, be, and they are hereby, authorized to construct, maintain, and operate a dam across the White River at a point suitable to the interests of navigation at or near the town of Cotter, Arkansas, in accordance with the provisions of the Act approved June twenty-third, nineteen hundred and ten, entitled "An Act to amend an Act entitled 'An Act to regulate the construction of dams across navigable waters,' approved June twenty-first, nineteen hundred and six."

SEC. 2. That the right to alter, amend, or repeal this Act is hereby expressly reserved.

Passed the House of Representatives March 21, 1912.

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 900.

PANAMA CANAL TOLLS.

MESSAGE

FROM THE

PRESIDENT OF THE UNITED STATES,

URGING

LEGISLATION TO FIX THE RATE OF TOLLS FOR VESSELS USING THE PANAMA CANAL, ETC.

AUGUST 6, 1912.—Read, referred to the Committee on Interstate and Foreign Commerce, and ordered to be printed.

To the Senate and House of Representatives:

In my annual message of December 6, 1910, I recommended legislation directing the Executive to fix, within limits established by law, the rate of tolls for vessels using the Panama Canal. I then said:

> The present consideration of this question is necessary in order that the commerce of the world may have time to adjust itself to the new conditions resulting from the opening of this new highway.

In my message of December 21, 1911, I renewed this recommendation, and called attention to the fact that we are now near enough to the completion of the canal to make it imperatively necessary that legislation should be enacted to fix the method by which the canal should be maintained and controlled, and the zone governed.

National as well as international considerations urgently demand the prompt adjustment of those questions, and I therefore deem it my duty again to invite your attention to this subject, in order that the necessary provisions may be made before the close of the present session of Congress.

There are certain needs which must be satisfied at once if there is to be no delay in the opening of the canal and the utilization of it by commerce. These needs are—

(1) The organization out of the construction force of a permanent force for the operation of the canal and the government of the zone;

(2) The announcement of the maximum tolls which will be imposed upon the commerce of the world; and

(3) The establishment of adequate coaling and other marine facilities, such as dry docks and repair shops.

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If the necessary steps toward these ends be taken, the great waterway can be thrown open to shipping before the close of 1913—that is, within 15 months.

The establishment of a permanent organization to operate the canal and exercise our control over the surrounding zone is vital. The manipulation of the locks and the machinery, the administration and maintenance of the canal, will require a force of about 2,500 men, most of whom will need special training in the performance of their duty. As fast as one part after another of the construction is now being completed, the men, especially those with the most initiative, are returning to the United States to engage in other employment. It is plainly the dictate of foresight and economy to blend the present construction force into a trained force for permanent operation, instead of later going through the wasteful process of organizing a new force.

The establishment of maximum toll rates is another indispensable immediate need of the situation. In order that the canal may secure commerce against its competitors as soon as it can be handled, business must be given an opportunity to adjust itself to the new trade route; in order that they may make their calculations and build their ships, shipowners must know, about two years in advance, the maximum tolls which they are to be charged. We are already somewhat behind a safe margin of time in informing the commercial world of the proposed tolls, although, in anticipation of the appropriate machinery and in cooperation with committees of Congress, the War Department has been collecting data under expert direction as to the proper rates of toll and the formulation of working rules as to the basis on which they shall be fixed.

Finally, an indispensable factor in the success of the canal is the certainty to the shipping world of securing necessary coal and marine facilities at reasonable prices at the canal. The ability to recoal at the Isthmus, instead of carrying coal in ballast to the diminution of income-earning cargo, may be a decisive factor in the availability of the Panama route. The same is true of docking facilities. Such facilities can not be improvised, and express authority should be given at once in order to commence with the necessary construction.

Congress is now in possession of the fullest information necessary for immediate action in regard to these essential points. Fortunately, there is no serious controversy as to the policy which enters into either of them. The subject is, happily, outside of the sphere of party differences. The discussions and differences of opinion which have arisen as to other phases of canal policy should not, in my opinion, be allowed to delay action on these vital and pressing subjects, which are by their nature entirely distinct and severable.

I earnestly again invite your attention to these matters in order that the necessary legislation may be obtained before the coming adjournment of Congress, and in order that the great work which has been so successfully carried on thus far may not be marred in the hour of its completion.

WM. H. TAFT.

THE WHITE HOUSE, *August 6, 1912.*

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 903.

VETO MESSAGE RELATING TO THE WOOL BILL.

MESSAGE

FROM THE

PRESIDENT OF THE UNITED STATES,

RETURNING TO

THE HOUSE OF REPRESENTATIVES, WITHOUT APPROVAL, H. R. 22195, "AN ACT TO REDUCE THE DUTIES ON WOOL AND THE MANUFACTURES OF WOOL," AND STATING CERTAIN OBJECTIONS THERETO.

AUGUST 9, 1912.—Ordered to be printed.

To the House of Representatives:

On December 20, 1911, I sent a message to the Congress, recommending a prompt revision of the tariff on wool and woolens. I urged a reduction of duties which should remove all the excesses and inequalities of the schedule, but should leave a degree of protection adequate to maintain the continued employment of machinery and labor already established in that great industry. With that message I transmitted a report of the Tariff Board, which furnished for the first time the information needed to frame a revision bill of this character, and recommended that legislation should be at once undertaken in the light of this information.

Despite the efforts which have been made to discredit the work of the Tariff Board, their report on this schedule has been accepted, with scarcely a dissenting voice, by all those familiar with the problems discussed, including active representatives of organizations formed in the interest of the public and the consumer. Importers and merchants, as well as producers and manufacturers, have testified to the accuracy and impartiality of these findings of fact. For the first time in the history of American tariffs the opportunity has been afforded of securing a revision based on established facts, independent both of the ex parte statements of interested persons and the guesswork of political theorists.

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My position has been made perfectly plain. I shall stand by my pledges to maintain a degree of protection necessary to offset the difference in cost of production here and abroad, and will heartily approve of any bill reducing duties to this level. Bills have been introduced into Congress, carefully framed and based on the findings of the Tariff Board, which, while maintaining the principle of protection, have provided for sweeping reductions. Such a bill was presented by the minority members of the Ways and Means Committee, which, while providing protection to the woolgrower, reduces the duty on most wools 20 per cent, and the duties on manufactures by from 20 to more than 50 per cent, and gives in many instances less net protection to the manufacturer than was granted by the Gorman-Wilson free-wool act of 1894.

Instead of such a measure of thorough and genuine revision, based on full information of the facts, and with rates properly adjusted to all the different stages of the industry, there is now presented for my approval H. R. 22195, "An act to reduce the duties on wool and the manufactures of wool," a bill identical with the one which I vetoed in August, 1911, before the report of the Tariff Board had been made. The Tariff Board's report fully and completely justifies my veto of that date. The amount of ad valorem duty necessary to offset the difference in the cost of production of raw wool here and abroad varies with every grade of wool. Consequently, an ad valorem rate of duty adjusted to meet the difference in the cost of production of high-priced wools is not protective to low-priced wools. In any case, the report of the Tariff Board shows that the ad valorem duty of 29 per cent on raw wool, imposed in the bill now submitted to me, is inadequate to meet this difference in cost in the case of four-fifths of our total wool clip. The disastrous effect upon the business of our farmers engaged in wool raising can not be more clearly stated. To maintain the status quo in the wool-growing industry, the minimum ad valorem rate necessary, even for high-grade wool in years of high prices, would be 35 per cent.

The rate provided in this bill on cloths of all kinds is 49 per cent. The amount of net protection given by this rate, in addition to proper compensation for the duty on wool, depends on the ratio between the cost of the raw material and the cost of making the cloth. The cost of the raw material in woolen and worsted fabrics varies in general from 50 per cent to 70 per cent of the total value of the fabric. Consequently, the net protective duty, with wool at 29 per cent, would vary from 28.7 per cent to 34.5 per cent. In the great majority of cases these rates are inadequate to equalize the difference in the cost of manufacture here and abroad. This is especially true of the finest goods involving a high proportion of labor cost. One of the striking developments of the last few years has been the growth in this country of a fine goods industry. The rates provided in this bill, inadequate as they are for most of the cloths produced in this country, would make the continuance here of the manufacture of fine goods an impossibility.

Even more dangerous in their effects are the rates proposed on tops and yarns. Tops are the result of the first stage in the making of raw wool into cloth. Yarn is the result of the second stage. Taken in connection with a rate of 29 per cent on wool, and 49 per

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cent on cloths, the rates of 32 per cent on tops and 35 per cent on yarn, fixed in this bill, seem impossible of justification. They would disrupt, and to no purpose, the existing adjustment, within the industry, of all its different branches. It is improbable in the highest degree that raw wool would be imported in great quantities when the cloth maker can import his tops at a duty of 32 per cent and yarns at a duty of 35 per cent. The report of the Tariff Board shows the difference in relative costs to be uniformly greater than the amount of protection on yarns given by this bill. In a year of low prices, the net protection granted by the proposed rates would not be more than half the difference in costs. The free wool act of 1894 gave a protective rate of 40 per cent on all yarns over 40 cents a pound in value, with free raw material. The present bill gives only 35 per cent on such yarns with a duty of 29 per cent on the raw material. The great increase in the imports of tops and yarns which would result from the rates in the bill now submitted to me, would destroy the effect of the protection to raw wool and at the same time would be at the cost of widespread disaster to the wool-combing and spinning branches of the industry. The last 15 years has witnessed a great growth of top making and worsted spinning in this country, and the capacity of the plants is now equal to domestic requirements. Under the rates proposed such plants could be continued, if at all, only by writing off most of the investment as a net loss and by a reduction of wages. To sum up, then, most of the rates in the submitted bill are so low in themselves that if enacted into law the inevitable result would be the irretrievable injury to the wool-growing industry, the enforced idleness of much of our wool-combing and spinning machinery, and of thousands of looms, and the consequent throwing out of employment of thousands of workmen.

In view of these facts, in view of the platform upon which I was elected, in view of my promise to follow and maintain the protective policy, no course is open to me but to withhold my approval from this bill. I am very much disappointed that such a bill is a second time presented to me. I have inferred from the speeches made in both the House and the Senate that the members of the majority in both Houses are deeply impressed with the necessity of reducing the tariff under the present act on wool and woolens; that they do not propose to stand on the question of the amount of reduction or to insist that it must be enough necessarily to satisfy the principle of tariff for revenue only, but that they are willing to accept a substantial reduction in the present rates in order that the people might be relieved from the possibility of oppressive prices due to excessive rates. I strongly desire to reduce duties, provided only the protection system be maintained, and that industries now established be not destroyed. It now appears from the Tariff Board's report, and from bills which have been introduced into the House and the Senate, that a bill may be drawn so as to be within the requirements of protection and still offer a reduction of 20 per cent on most wool and of from 20 per cent to 50 per cent on cloths. I can not act upon the assumption that the controlling majority in either House will refuse to pass a bill of this kind, if in fact it accomplishes so substantial a reduction, merely because members of the opposing party and the Executive unite in its approval. I, therefore, urge upon

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Congress that it do not adjourn without taking advantage of the plain opportunity thus substantially to reduce unnecessary existing duties. I appeal to Congress to reconsider the measure, which I now return, without my approval, and to adopt a substitute therefor making substantial reductions below the rates of the present act, which the Tariff Board shows possible, without destroying any established industry or throwing any wage earners out of employment, and which I will promptly approve.

WM. H. TAFT.

THE WHITE HOUSE, *August 9, 1912.*

[H. R. 22195.]

AN ACT To reduce the duties on wool and manufactures of wool.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the act approved August fifth, nineteen hundred and nine, entitled "An act to provide revenue, equalize duties, and encourage the industries of the United States, and for other purposes," is hereby amended by striking out all of Schedule K thereof, being paragraphs three hundred and sixty to three hundred and ninety-five, inclusive, and inserting in lieu thereof the following:

"SCHEDULE K, WOOL AND MANUFACTURES THEREOF.

"360. On wool of the sheep, hair of the camel, goat, alpaca, and other like animals, and on all wools and hair on the skin of such animals, the duty shall be twenty-nine per centum ad valorem.

"361. On all noils, top waste, card waste, slubbing waste, roving waste, ring waste, yarn waste, bur waste, thread waste, garnetted waste, shoddies, mungo, flocks, wool extract, carbonized wool, carbonized noils, and on all other wastes and on woolen rags composed wholly of wool or of which wool is the component material of chief value, and not specially provided for in this section, the duty shall be twenty-nine per centum ad valorem.

"362. On combed wool or tops and roving or roping, made wholly of wool or camel's hair, or of which wool or camel's hair is the component material of chief value, and all wools and hair which have been advanced in any manner or by any process of manufacture beyond the washed or scoured condition, not specially provided for in this section, the duty shall be thirty-two per centum ad valorem.

"363. On yarns made wholly of wool or of which wool is the component material of chief value, the duty shall be thirty-five per centum ad valorem.

"364. On cloths, knit fabrics, flannels not for underwear, composed wholly of wool or of which wool is the component material of chief value, women's and children's dress goods, coat linings, Italian cloths, bunting, and goods of similar description and character, clothing, ready-made, and articles of wearing apparel of every description, including shawls, whether knitted or woven, and knitted articles of every description made up or manufactured wholly or in part, felts not woven, and not specially provided for in this section, webbings, gorings, suspenders, braces, bandings, beltings, bindings, braids, galloons, edgings, insertings, flouncings, fringes, gimps, cords, cords and tassels, ribbons, ornaments, laces, trimmings, and articles made wholly or in part of lace, embroideries and all articles embroidered by hand or machinery, head nets, nettings, buttons or barrel buttons or buttons of other forms for tassels or ornaments, and manufactures of wool ornamented with beads or spangles of whatever material composed, on any of the foregoing, composed wholly of wool or of which wool is the component material of chief value, and on all manufactures of every description made by any process of wool or of which wool is the component material of chief value, whether containing india rubber or not, not specially provided for in this section, the duty shall be forty-nine per centum ad valorem.

"365. On all blankets, and flannels for underwear, composed wholly of wool, or of which wool is the component material of chief value, the duty shall be thirty-eight per centum ad valorem.

"366. On Aubusson, Axminster, moquette, and chenille carpets, figured or plain, and all carpets or carpeting of like character or description; on Saxony, Wilton, and Tournay velvet carpets, figured or plain, and all carpets or carpeting of like character

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or description; and on carpets of every description, woven whole for rooms, and Oriental, Berlin, Aubusson, Axminster, and similar rugs, the duty shall be fifty per centum ad valorem.

"367. On Brussels carpets, figured or plain, and all carpets or carpeting of like character or description; and on velvet and tapestry velvet carpets, figured or plain, printed on the warp or otherwise, and all carpets or carpeting of like character or description, the duty shall be forty per centum ad valorem.

"368. On tapestry Brussels carpets, figured or plain, and all carpets or carpeting of like character or description, printed on the warp or otherwise; on treble ingrain, three-ply, and all-chain Venetian carpets; on wool Dutch and two-ply ingrain carpets; on druggets and bockings, printed, colored or otherwise; and on carpets and carpeting of wool or of which wool is the component material of chief value, not specially provided for in this section, the duty shall be thirty per centum ad valorem.

"369. Mats, rugs for floors, screens, covers, hassocks, bedsides, art squares, and other portions of carpets or carpeting made wholly of wool or of which wool is the component material of chief value, and not spectally provided for in this section, shall be subjected to the rate of duty herein imposed on carpets or carpeting of like character or description.

"370. On all manufactures of hair of the camel, goat, alpaca, or other like animal, or of which any of the hair mentioned in paragraph three hundred and sixty form the component material of chief value, not specially provided for in this section, the duty shall be forty-nine per centum ad valorem.

"371. Whenever in this act the word 'wool' is used in connection with a manufactured article of which it is a component material, it shall be held to include wool or hair of the sheep, camel, goat, alpaca, or other like animals, whether manufactured by the woolen, worsted, felt, or any other process."

SEC. 2. That on and after the day when this act shall go into effect all goods, wares, and merchandise previously imported and hereinbefore enumerated, described, and provided for, for which no entry has been made, and all such goods, wares, and merchandise previously entered without payment of duty and under bond for warehousing, transportation, or any other purpose, for which no permit of delivery to the importer or his agent has been issued, shall be subjected to no other duty upon the entry or withdrawal thereof than the duty which would be imposed if such goods, wares, or merchandise were imported on or after that date.

SEC. 3. That all acts and parts of acts in conflict with the provisions of this act be, and the same are hereby, repealed. This Act shall take effect and be in force on and after the first day of January, nineteen hundred and thirteen.

CHAMP CLARK,
Speaker of the House of Representatives.

AUGUSTUS O. BACON,
President of the Senate pro tempore.

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62D CONGRESS, 2d Session } HOUSE OF REPRESENTATIVES { DOCUMENT No. 904

ADDRESS

OF

COL. GEORGE W. GOETHALS

UNITED STATES ARMY

AT THE GRADUATION EXERCISES OF THE CLASS OF NINETEEN TWELVE
UNITED STATES MILITARY ACADEMY, WEST POINT, N. Y.
WEDNESDAY, JUNE 12, 1912

AUGUST 12, 1912.—Ordered to be printed

WASHINGTON
1912

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INTRODUCTION OF COL. GOETHALS BY THE SUPERINTENDENT.

Forty years ago, in 1872, two boys entered what was then the Free Academy, now the College of the City of New York, from the public schools of that city and there became classmates.

One entered West Point in 1873 and the other remained at the college through his sophomore year and entered West Point in 1876.

Those two young men then became contemporaries and friends as cadets, have known each other and have served together off and on, and have been friends ever since.

It is therefore an unusual personal and official pleasure and honor for one of those then young men to announce that the other, now the most distinguished engineer of the age, the man who by his own ability, force of character, and modesty is bringing to a conclusion the most stupendous engineering project in the history of the world, is to honor us with an address.

When we consider that he has had not only to supervise the work of 40,000 employees, but to provide and care for them also, and the hundreds of millions of dollars that have been expended under his supervision, and that the finger of scandal or graft has never pointed at his administration and never will, it speaks the man he is; and, my friends, the country has a right to expect and will receive that kind of administration whenever it is intrusted to the product of this institution.

He needs no introduction to this body; he is of it, and we glory in that fact.

I beg to present George W. Goethals, of the class of '80.

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ADDRESS BY COL. GEORGE W. GOETHALS, UNITED STATES ARMY.

I desire to express appreciation of the honor shown me by Gen. Barry by my selection to address this class, for it can be conferred on but few, and within my knowledge this is only the second instance in which any but a general officer or one previously holding that rank has been so honored. It is especially prized coming from one for whom I entertain such high respect and admiration, whose love for the academy I know, and who has always zealously striven for the advancement of its interests.

Thirty-two years ago to-day my class held your place. The four years' course of training had been completed, and though fewer distractions and less freedom were accorded us in those days I realize that we were no more eager than yourselves to get our diplomas and escape from the restraints imposed by this old institution. It is not my purpose to detain you unnecessarily, for I still remember how I wished some one would put an end to the long speech meted out to us; neither will I forget that advice has been defined to be something which everybody is ready to give, but which nobody is willing to follow, except when in a particular case it accords with his own wishes and desires.

Thus far you have followed a curriculum intended so to train you mentally, morally, and physically as to enable you to grapple with hope of successful issue the future problems which will confront you. To-day you pass from the patient, careful guidance, and direction of the academic board and its corps of assistants, and henceforth you are to stand alone, coping with the duties and problems of actual life. The duties and problems which confront the Army officer in recent years are more numerous, more varied, and complex than in former days, so that greater opportunities are offered. But now, as then, success in each instance depends upon the man himself—upon his character, his ability, and his capacity for work, with character placed above all else.

It is the professed primary object of this institution to develop that high quality which we call character. It finds expression in the academy's motto: "Duty, honor, country." Briefly summed up, it means honorable conduct in all actions and in all dealings with one's fellows. The basis of it is loyalty—loyalty to those fundamental moral principles upon which all right conduct is based, loyalty to the profession of which one is a member, loyalty to superiors, and loyalty to the Nation in whose service we are all enlisted. There is no real success without this quality. The man who is disloyal to his profession, to his superior, or to his country is disloyal to himself and to all that is best in him. He is his own worst enemy, for he undermines

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his own character, and thus deprives his efforts of that incentive which is the most powerful of all factors. We all have a right to our own views and opinions, and in most cases which arise we have opportunity to express them. When the decision is against us, instead of shirking, giving lukewarm support, or attempting to show that our opinions are the correct ones, loyalty demands that we give the best that is in us toward the accomplishment of the end desired by those in authority. If your four years' training here has not fixed this truth firmly and ineradicably in your minds, it has failed lamentably in its purpose.

The system of training through which you have passed is designed and arranged to require of you and to impress upon you the necessity of mastering each day's allotted work with the object of developing in you those powers of concentration and application which are necessary for successful accomplishment. You could not have succeeded here had you at any time during your course put off till to-morrow those tasks which were prescribed for to-day; the same rule must continue to be your standard if you hope to succeed in measuring up to the future duties that will devolve upon you. The course of study and instruction, however, is not such as to warrant the sanguine and self-confident graduate in believing, when he receives his diploma, that he is the possessor of all knowledge. On the contrary, he has the bare beginnings of knowledge; the foundations of a structure yet to be raised. The clearer this revelation is made to him, the sooner he perceives that he has merely been taught how to acquire and use knowledge, and that successful accomplishment can be attained only by continuing the methods of constant, earnest effort, the better will be his chances of success.

As already stated, in the final test of actual experience it is upon the man himself that success depends. No system of training will carry an incapable or an unfaithful man to success. The world to-day is above all else a practical world, and it demands results. What it is looking for is men who can and will do things. It is recorded of Lord Kitchener that, when during the South African campaign a subordinate officer reported to him a failure to obey orders and gave reasons therefor, he said to him: "Your reasons for not doing it are the best I ever heard; now go and do it." That is what the world demands to-day—not men who are fearful of an undertaking, who advance reasons for not doing it or express doubts about its accomplishment, but men who have the courage of their convictions and will find ways to carry it through successfully.

Your duties will bring you more or less in touch with civil life, in contradistinction to the military, and some of you will spend the larger portion of your active careers among civilians. Isolated as you have been during the four most impressionable years of your life, and deprived in a large measure of contact with the outer world, you have lacked opportunity for learning its ways and the ways in which men in general think and act. In this respect you are not the equals of the graduates of our universities and technical schools, who acquire such knowledge through mental friction that results from contact between men pursuing different courses of study, and by actual touch with the world during term time and in the long vacation periods. This seclusion is, of course, a necessary feature of the military training and must be maintained. I do not speak of it with any idea of

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change or modification, but for the purpose of calling attention to certain effects of it which should be taken into account by our graduates as they enter upon the duties of life. While there are men in civil life with ideals as high as those held constantly before you here, you will find instances where men gain their ends, without apparent loss of prestige or position, in ways and by means which measured by your standards would be considered neither straightforward nor honorable. In such surroundings one's viewpoint may become distorted, and it behooves us so to live that no discredit will be reflected on the academy or the Army. The outside world knows our service and our alma mater by the impressions we make upon it, and we owe it to them, to the Nation which educated us, to live up to the ideals of honor, self-abnegation, sacrifice, and devotion to duty which this institution has endeavored to instill in you.

The most important duty that will devolve upon you is the control, direction, and command of men. To successfully accomplish any task, it is necessary not only that you should give to it the best that is in you, but that you should obtain for it the best there is in those who are under your guidance. To do this, you must have confidence in the undertaking and confidence in your ability to accomplish it in order to inspire that same feeling in them. You must have not only accurate knowledge of their capabilities, but a just appreciation and a full recognition of their needs and rights as fellow men. In other words, be considerate, just, and fair with them in all dealings, treating them as fellow members of the great Brotherhood of Humanity. A discontented force is seldom loyal, and if its discontent is based upon a sense of unjust treatment, it is never efficient. Faith in the ability of a leader is of slight service unless it be united with faith in his justice. When these two are combined, then and then only is developed that irresistible and irrepressible spirit of enthusiasm, that personal interest and pride in the task, which inspires every member of the force, be it military or civil, to give when need arises the last ounce of his strength and the last drop of his blood to the winning of a victory in the honor of which he will share.

We are expected to perform fully and to the best of our ability whatever duty is assigned to us; for this have we been trained and educated, and our aim and purpose should be its successful accomplishment without any other considerations. This, however, is not always the case, for you will find some who are so impressed with what they call their reputations or who are so desirous of advancing their individual interests that the singleness of purpose no longer controls. The dread of detracting from the one or injuring the other impairs their usefulness and efficiency, for they fear to accept the consequences of responsibility and of decisive action, which are so essential to successful accomplishment.

We are inclined to expect praise or reward for doing nothing more than our duty when, as a matter of fact, we are entitled to neither, since we have done only that which is required of us. It calls to mind an instance which came under my observation in the days before efficiency reports were in vogue. A young officer about to be relieved from duty at a certain station was told by his superior that the latter intended to give him a letter commendatory of his services. The youngster inquired if he had done anything more than his duty, and on learning that while he had not he had performed that duty well,

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replied that he failed to see why there should be any commendation for doing that for which he has been educated by the Government and retained in its service. This is an example of the spirit that we should strive to acquire—to be content with the consciousness of duty well done; therein lies the reward which gives the greatest gratification and which is secure. With such a spirit the enthusiasm and the hopefulness which contribute so largely in securing successful results will continue with us; without them disappointment and discouragement are too apt to follow. The plaudits of our fellows may be flattering to our vanity, but they are not lasting; by the next turn of the wheel they may be changed into abuse and condemnation.

It all amounts to this: Whatever your hands find to do, that do with all the might that is in you. That is the lesson of all experience. Face every task with a determination to conquer its difficulties and never to let them conquer you. No task is too small to be done well. For the man who is worthy, who is fit to perform the deeds of the world, even the greatest, sooner or later the opportunity to do them will come. He can abide his time, can rest—"safe in himself as in a fate."

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62D CONGRESS, 2d Session | HOUSE OF REPRESENTATIVES | DOCUMENT No. 905

THE WATERS OF THE HOT SPRINGS OF ARKANSAS

IN RELATION TO THE ALLEVIATION AND CURE OF DISEASES

A REPORT OF THE SECRETARY OF THE INTERIOR

ON

H. R. 24737 (62D CONGRESS, 2D SESSION), "A BILL TO AUTHORIZE THE INVESTIGATION OF THE PHYSIOLOGICAL AND THERAPEUTICAL EFFECTS OF THE WATERS OF THE HOT SPRINGS OF ARKANSAS AND TO REPORT UPON THE APPLICATION OF THESE WATERS TO THE ALLEVIATION AND CURE OF DISEASES."

WASHINGTON
GOVERNMENT PRINTING OFFICE
1912

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[Sixty-second Congress, Second Session.]

IN THE HOUSE OF REPRESENTATIVES,
August 10, 1912.

Resolved, That there be printed as a document five hundred copies of the report of the Secretary of the Interior, dated June seventh, nineteen hundred and twelve, and accompanying papers, on H. R. 24737, to authorize the investigation of the physiological and therapeutical effects of the waters of the hot springs of Arkansas, and to report upon the application of these waters to the alleviation and cure of diseases.

Attest:

SOUTH TRIMBLE, *Clerk.*

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PHYSIOLOGICAL AND THERAPEUTICAL EFFECTS OF THE WATERS OF THE HOT SPRINGS OF ARKANSAS.

DEPARTMENT OF THE INTERIOR,
Washington, June 7, 1912.

Hon. JOSEPH T. ROBINSON,
Chairman Committee on the Public Lands,
House of Representatives.

DEAR SIR: Your letter of May 28 has been received, inclosing with request for report thereon H. R. 24737, "to authorize the investigation of the physiological and therapeutical effects of the waters of the hot springs of Arkansas and to report upon the application of these waters to the alleviation and cure of diseases." The bill in question is as follows:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the sum of fifty thousand dollars, or so much thereof as may be necessary, be, and the same is hereby, appropriated to investigate the physiological and therapeutical effects of the waters of the hot springs of Arkansas and to report upon the application of these waters to the alleviation and cure of diseases, including the employment of all persons necessary in carrying on the work, the purchase of laboratory apparatus, equipment, and other supplies, the renting of building and other appurtenances, and all other expenses necessary to effectuate such investigation, to be expended under the supervision of the Secretary of the Interior and to continue available until expended.

SEC. 2. That the Secretaries of the Treasury, of the War, of the Navy, and of the Agricultural Departments, respectively, are hereby directed to cooperate with the Secretary of the Interior in such investigation, by detailing competent officers, and by extending all hospital, laboratory, and other facilities necessary and desirable in the carrying on of such investigation.

In response thereto I have to state that the minutes of the sixty-second annual session of the American Medical Association, Los Angeles session, June 26 to June 30, 1911, as published in the official journal of that organization, provides, among other things:

Proposal to examine radioactive waters.—Owing to the importance attributed to radioactive mineral waters in the treatment of gouty and other affections by competent European observers, and the special interest excited by the symposium on the subject at the Thirty-second Pharmacologic Congress recently held in Berlin, the section on pharmacology and therapeutics of the American Medical Association requests the house of delegates to suggest to the United States Government the advisability of investigating the radioactivity of the various mineral waters of the United States and publishing the result for the benefit of the medical profession.

Dr. Harry M. Hallock, medical director of the Hot Springs Reservation, under date of July 10, 1911, invited attention to the great and widespread faith in the curative properties of the water and to the recognition of the benefits to be derived from its use, as exemplified by the act of Congress in establishing the reservation of the Hot Springs, stating, among other things:

The intelligent application of any remedial agent, as distinguished from quackery, depends fundamentally upon definite knowledge as to the effects upon the living

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organism which may be expected to follow its exhibition, and these have never been determined with reference to the water of the hot springs, at least in detail and with the scientific accuracy requisite for announcement to and acceptance by the medical world.

The relation of the Federal Government to the springs and the authority it exercises with reference to the prescribing of the water would appear to amount to a recommendation for its use in certain cases, and consequently it may be assumed that there devolves an obligation to determine, so far as may be possible, in what cases it is of real value, and how it influences the functions of the various organs of the body.

Subsequently, in February, 1912, the medical director was instructed to take up the subject of the investigation of the physiological effects of the waters from the hot springs and submit a report thereon; and there is herewith transmitted for your information a copy of his letter of April 19, 1912, embodying a detailed report on the subject, together with copies of letters received by him from the representatives of the leading medical colleges in the United States and members of the medical profession, expressing their views on the advisability of the inauguration of the investigation in question.

In the interest of the afflicted who resort to Hot Springs for the purpose of procuring the benefit of the thermal waters on the reservation it is highly desirable that experiments be inaugurated at the earliest practicable date to determine, as far as may be possible, the exact physiological action of the waters from these hot springs, and I have to recommend that the legislation contemplated in the bill receive early and favorable consideration.

Very respectfully,

CARMI A. THOMPSON,
Assistant Secretary.

DEPARTMENT OF THE INTERIOR,
HOT SPRINGS RESERVATION,
OFFICE OF MEDICAL DIRECTOR,
Hot Springs, Ark., July 10, 1911.

The SECRETARY OF THE INTERIOR,
Washington, D. C.

SIR: I have the honor to recommend that a competent physiological chemist be employed to conduct a series of experiments with a view to determining, as far as may be possible, the exact physiological action of the water of the Hot Springs.

In this connection attention is invited to the great and widespread faith in the curative properties of the water and to the recognition of the benefits to be derived from its use, as exemplified by the act of Congress in establishing the reservation of the Hot Springs.

The intelligent application of any remedial agent, as distinguished from quackery, depends fundamentally upon definite knowledge as to the effects upon the living organism which may be expected to follow its exhibition, and these have never been determined with reference to the water of the Hot Springs, at least in detail and with the scientific accuracy requisite for announcement to and acceptance by the medical world.

The relation of the Federal Government to the springs, and the authority it exercises with reference to the prescribing of the water would appear to amount to a recommendation for its use in certain cases, and consequently it may be assumed that there devolves an

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obligation to determine, so far as may be possible, in what cases it is of real value, and how it influences the functions of the various organs of the body.

Very respectfully, HARRY M. HALLOCK,
Medical Director.

[Extract from the report of the medical director of the Hot Springs Reservation for the year 1911.]

The physiological effects of the water have never been scientifically and accurately determined, and as its rational use can not be thoroughly understood in any other way it is recommended that a competent physiological chemist be employed to conduct a series of experiments in this direction.

DEPARTMENT OF THE INTERIOR,
HOT SPRINGS RESERVATION,
OFFICE OF MEDICAL DIRECTOR,
Hot Springs, Ark., April 19, 1912.

The SECRETARY OF THE INTERIOR,
Washington, D. C.

SIR: The letter from the department of February 14, 1912, with reference to the proposed investigation of the physiological effects of the water of the Hot Springs reads in part as follows:

I have to request that you will take up the subject with the other members of the Federal registration board and submit a general outline as to the amount of money which you think should be appropriated by Congress for this purpose, such appropriation to include compensation of physicians employed, laboratory facilities, appliances, and hospital facilities in connection with the matter.

In reply I have the honor to state that in compliance with the above instructions a circular letter, a copy of which is herewith inclosed and marked "A," was sent December 19, 1912, to the secretaries of a number of the leading medical colleges requesting that it be referred to an appropriate committee of the faculty and that said committee be requested to submit one or more names of persons qualified to undertake the work. Subsequently more detailed communications were sent to those recommended and March 18, 1912, another circular letter, a copy of which is inclosed herewith and marked "B," was sent to all the members of the American Association of Biological Chemists and to most of the professors of the practice of medicine and of materia medica and therapeutics in the class A medical colleges. All of the replies received to date are inclosed for the information of the department.

Consideration of this correspondence and of known facts would appear to justify the following conclusions:

1. Many representative nonresident practitioners view the therapeutic resources of hot springs with distrust because the physiological action of the water never has definitely and scientifically been determined by competent investigators uninfluenced by personal interests.

2. It is evident that there is a suspicion in the minds of some that the water of the hot springs has no curative properties not possessed by any water heated to the same temperature. If this be so the public and the medical profession are as much entitled to this information as to know what, if any, its distinctive therapeutic properties are. No other view can ethically be sustained.

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3. The legitimate therapeutic value of the water and of the resort should be determined in order that those who are suffering from ailments that can be alleviated by treatment at the springs may know of that fact as well as that those who can not so be benefited may not be misled. The act of Congress which reserved and protected the water of the hot springs for the use of the people amounted to a positive and official declaration that it possesses unique and valuable therapeutic properties. In administering the affairs of the Hot Springs Reservation the Government is to all intents and purposes practicing medicine on an enormous scale in the sense that it sanctions and recommends to the people of the entire country the use of a particular remedial agent. Many thousands, having faith in the Government's indorsement, make use of this remedy each year, often coming from distant States at an expense that they can ill afford. Many unquestionably are greatly benefited; others would have been better off had they sought treatment elsewhere or remained at home. The Government is under much the same moral obligation to determine the pyhsiological effects of the remedy it sanctions and to safeguard and provide for its proper and successful administration as is the individual practitioner when he prescribes a drug.

4. The therapeutic value of radium is established, and the study of the physiological effects of natural radioactive spring waters is now occupying the attention of some of the foremost laboratory workers and clinicians of Germany.

5, There is a reasonable assurance that properly conducted investigations would afford definite scientific data of real and lasting value to the medical profession and through them to the people.

6. It is absolutely essential that the proposed investigations, to be of value and to warrant acceptance by the medical profession, should be exhaustive in scope and cover several allied fields of research. They should be conducted by a commission composed of the foremost men in their respective fields. Physicians having personal interests that might be influenced or that might influence them should not be appointed. It is very desirable to identify with the work the Carnegie and Rockefeller institutions for medical research, the Bureau of Chemistry of the Department of Agriculture, and the Public Health and Marine-Hospital Service.

7. The investigations of the commission should deal with the entire field of the application of the waters of the hot springs to the relief and cure of disease and not be confined merely to a study of its physiological effects. Under these conditions it is believed they might properly and advantageously express opinions and make recommendations covering all of the subject-matter included in the annual report of the medical director and thus greatly assist in the development of public sentiment for a satisfactory solution of many difficult problems. The report on the physiological action of the water could be rendered separately if desired and the other subjects, which are of almost equal importance to the welfare of patients, covered in a supplementary paper.

8. It is useless to attempt such work through any less thorough and far reaching investigations and without an adequate appropriation.

9. At least two years will be required for the work.

10. Whatever may be determined as to the specific curative properties of the water there can be no doubt but that there is ample justification for the maintenance of a resort of an essentially national character

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at the springs. Should the commission determine definitely that the water is of therapeutic value, even in a restricted group of ailments, the importance of having that fact attested to the medical profession through the type of commission contemplated can scarcely be overestimated. Such a report would be accorded international circulation and text books on the practice of medicine would soon contain references to treatment at Hot Springs as they now indicate the class of cases suitable for "the cure" at Carlsbad or Nauheim.

It is impossible at the present time to prepare an accurate estimate for the necessary appropriation. By referring to the letters of Profs. L. B. Mendel and Victor Vaughan it will be seen there is a considerable variation in the figures given. The cost will vary greatly in accordance with the scope of the investigation and the personnel and number of the members of the commission, and can only be determined accurately after organization and the outlining of the work. Prof. Mendel suggests that it might be possible to induce desirable men to serve for an honorarium, traveling expenses and a per diem allowance. The cost will be materially lessened if the facilities of the Army and Navy General Hospital be obtained, if a laboratory can be established there, and if competent investigators can be detailed from the other Federal medical services. Much will depend upon the number of healthy individuals experimented upon or used as controls, as such men would have to be paid not less than a dollar a day plus subsistence and hospital accommodations.

Of the members of the Federal registration board, Drs. Dake and Steer are of the opinion that $100,000 will be required; Dr. Martin believes that $75,000 will suffice.

It is recommended that an effort be made to secure an appropriation of $50,000. This is believed to be a reasonable request in view of the importance of the work and will suffice to outline, inaugurate and pursue the investigations for a period of from one to two years. At the expiration of this time if satisfactory conclusions have not been reached there will undoubtedly be data available from which the advisability of requesting an additional appropriation can be determined.

The detailed estimate inclosed is as accurate as I have been able to prepare in view of the unusual character of the work. It provides for every necessary expenditure for the period of two years, the estimates for the first and second years being shown separately. There is attached to the estimate a bill for the desired appropriation.

Very respectfully,

HARRY M. HALLOCK,
Medical Director.

DEPARTMENT OF THE INTERIOR,
HOT SPRINGS RESERVATION,
OFFICE OF MEDICAL DIRECTOR,
Hot Springs, Ark., December 19, 1911.

The SECRETARY, UNIVERSITY OF COLUMBIA,
New York City.

DEAR SIR: The Secretary of the Interior has directed me to make due inquiry and ascertain if possible the name of some physiological chemist competent to conduct a series of experiments with a view to

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determining, so far as may be practicable, the exact physiological effects of the water of the Hot Springs of Arkansas. These investigations should be made by one whose standing and qualifications are such that the findings will be accepted by the medical profession as reliable scientific research. I therefore beg to inquire if it would be practicable for you to refer this matter to an appropriate committee of the faculty with the request that they submit one or more names of persons qualified to undertake this work.

It has already been determined that there is no officer of the Medical Department of the Army, the Navy, or the Marine-Hospital Service available.

Thanking you for any assistance you may be able to render, I have the honor to remain,

Very respectfully, HARRY M. HALLOCK,
Medical Director.

A letter similar to the one attached was also sent to the following:
The secretary, Harvard University, Cambridge, Mass.
The secretary, University of Pennsylvania, Philadelphia, Pa.
The secretary, Johns Hopkins University, Baltimore, Md.
The secretary, Jefferson Medical College, Philadelphia, Pa.
The secretary, University of Chicago, Chicago, Ill.
Dr. Alexander R. Craig, secretary, the American Medical Association, Chicago, Ill.

Letters received from representatives of leading medical colleges and members of the medical profession in relation to proposed investigation of the physiological and therapeutic effects of the waters of the hot springs of Arkansas.

THE UNIVERSITY OF CHICAGO, *January 31, 1912.*

Dr. HARRY M. HALLOCK,
Medical Director, Hot Springs, Ark.

DEAR SIR: Your letter of the 19th ultimo, asking the names of one or more persons qualified to investigate the action of the waters of the hot springs and directed to the secretary of this university, has been referred to me.

I would suggest the names of the following physiologists who would be qualified to undertake the work you mention:

1. Dr. Ralph S. Lillie, department of zoology, University of Pennsylvania.
2. Prof. E. P. Lyon, professor of physiology, St. Louis University, St. Louis, Mo.
3. Prof. Waldemar Koch, assistant professor of pharmacology, of this university.
4. Prof. Abel or Howell of Johns Hopkins University, Baltimore, Md.

There are many other names which might be given, but these occur to me as men of ability who have worked along these lines.

Very truly, yours,

ALBERT P. MATHEWS.

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JOHNS HOPKINS UNIVERSITY,
DEPARTMENT OF PHARMACOLOGY,
Baltimore, December 29, 1911.

DR. HARRY M. HALLOCK,
Medical Director, Department of the Interior,
Hot Springs Reservation, Hot Springs, Ark.

DEAR SIR: Your letter of recent date in reference to a physiological chemist has been referred by the registrar to me. I would suggest that you apply to the council on pharmacy and chemistry of the American Medical Association, 535 Dearborn Avenue, Chicago, Ill., for assistance in this matter. You will be almost sure to learn from them of someone who can do this work for you.

Very truly, yours,

JOHN J. ABEL.

JOHNS HOPKINS UNIVERSITY,
DEPARTMENT OF PHYSIOLOGY,
Baltimore, Md., February 26, 1912.

DR. HARRY M. HALLOCK,
Medical Director, Hot Springs, Ark.

DEAR SIR: I beg to acknowledge the receipt of your letter of February 20, in regard to the investigation of the physiological action of the waters of the hot springs. As your letter was directed to Prof. Abel W. Howell, I am a little uncertain whether it was meant for my colleague Prof. J. J. Abel or for myself. For myself I can only say that it would scarcely be possible for me to leave my work to engage in such an investigation. It would seem to me that if adequate facilities can be obtained such an investigation might yield very interesting and possibly practically valuable results. If I were directing the work I should want to make a preliminary investigation upon animals—dogs or rabbits—since naturally in some respects this would enable the experimentor to control his results more satisfactorily. Such results as were obtained could then be studied by way of corroboration upon man. The action of the water ought to be studied upon the general metabolism, the respiratory exchange, heat production (calorimetric), blood and circulation, reactions of the nervous system, excretion, etc.

If you could obtain his services, Prof. Mendel (L. B. Mendel), Yale University, New Haven, Conn., would probably be the best qualified man. If he can not accept such work himself he may be able to designate a younger man who will carry out experiments under his directions.

Very truly, yours, W. H. HOWELL.

DEPARTMENT OF THE INTERIOR,
HOT SPRINGS RESERVATION,
OFFICE OF MEDICAL DIRECTOR,
Hot Springs, Ark., February 29, 1912.

PROF. L. B. MENDEL,
Yale University, New Haven, Conn.

SIR: There is under consideration by the Secretary of the Interior the advisability of conducting a series of experiments to determine the physiological effects of water of the hot springs of Arkansas.

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Over 100,000 people visit this resort each year and the therapeutic value of the baths in certain conditions is well established. It is believed that an appropriation by Congress can be obtained to carry on these experiments and it is thought that a physiological chemist working in conjunction with a commission consisting of the medical director of the Hot Springs Reservation, the Federal board of medical examiners and possibly one or two delegates from the County Medical Society would be able to thoroughly study and scientifically investigate both the therapeutic and the physiological effects and to place before the medical profession experimental data of value.

It is believed that the cooperation of the Secretary of War, the Secretary of the Navy, and the Public Health and Marine-Hospital Service can be secured as well as the facilities of the Army and Navy General Hospital. The work would probably extend over at least a year and possibly longer.

Your name has been suggested as one eminently competent in the research field and I therefore beg to inquire as to whether in your opinion it would be possible to obtain results from this line of work that would be of real value to the medical profession and commensurate with the expenditure involved.

Would you be willing to accept such an appointment if it were formally tendered to you and at what compensation? Could you give an estimate of the probable total cost including your own compensation, that of all necessary apparatus and supplies, the employment of subjects for experiments in the study of blood and excretory changes, etc., covering the work of the commission for the period of one year?

There are enclosed for your information certain papers and reports that it is believed may be of interest in connection with the subject.

Very respectfully,

HARRY M. HALLOCK,
Medical Director.

A copy of the attached letter was also sent to the following:

Prof. E. P. Lyon, professor of physiology, St. Louis University, St. Louis, Mo.

Prof. Waldemar Koch, assistant professor of pharmacology, University of Chicago, Chicago, Ill.

Prof. Abel W. Howell, Johns Hopkins University, Baltimore, Md.

Dr. Ralph S. Little, department of zoology, University of Pennsylvania, Philadelphia, Pa.

Prof. Jacob Rosenbloom, College of Physicians and Surgeons, 437 West Fifty-ninth Street, New York City, N. Y.

Prof. Victor Vaughan, M. D., University of Michigan, Ann Arbor, Mich.

Prof. A. E. Taylor, Medical School, University of Pennsylvania, Philadelphia, Pa.

SHEFFIELD LABORATORY PHYSIOLOGICAL CHEMISTRY,
YALE UNIVERSITY,
New Haven, Conn., March 6, 1912.

Dr. HARRY M. HALLOCK,
Hot Springs Reservation, Hot Springs, Ark.

MY DEAR SIR: I desire to acknowledge the receipt of your letter of February 29, with reference to the possibility of a series of experiments to determine the physiological effects of the waters of the hot springs.

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In view of the importance and scope of the questions raised in your communication, it will be necessary for me to delay a formal and definite reply until I can consider with some care the problems which are involved therein. Any investigation along the lines outlined by you will call for careful and exhaustive studies in several related fields; and in order to give you some facts and opinions which are likely to be of any value to you I must ask for a brief time in which to give questions at issue and the probability of useful outcome to research more careful consideration. I assume, from statements in the documents which you forwarded to me, that at the present time the unique therapeutic properties of the spring waters are in good part ascribed to radio-active manifestations. These are, as you well know, being widely investigated in some of the foremost laboratories of Europe.

Very respectfully,

LAFAYETTE B. MENDEL.

DEPARTMENT OF THE INTERIOR,
HOT SPRINGS RESERVATION,
OFFICE OF MEDICAL DIRECTOR,
Hot Springs, Ark., March 12, 1912.

Prof. LAFAYETTE B. MENDAL,
Sheffield Laboratory of Physiological Chemistry,
Yale University, New Haven, Conn.

MY DEAR SIR: I beg to acknowledge your letter of March 6 in reply to mine of February 29, 1912, and thank you sincerely for the interest and attention you have given the matter. Should the investigations be undertaken it will doubtless take some time to arrange the details, but there is one point that it is greatly desired to have settled at once and that is the determination of the sum to be requested from Congress for carrying on the work. This must be determined by April 1 in order to have the bill presented during the present session.

I am in receipt of a letter from the department which reads in part as follows:

> I have to request that you will take up the subject with the other members of the Federal registration board and submit a general outline as to the amount of money which you think should be appropriated by Congress for this purpose, and such appropriation to include compensation of physicians employed, laboratory facilities, appliances, and hospital facilities in connection with the matter.
>
> In submitting the estimate of the amount to be appropriated for this purpose a lump sum will be asked for, out of which all necessary expenses, including compensation of experts, etc., is to be paid, and it is also proposed to suggest to Congress that the Secretary of War, the Secretary of the Navy, and the Public Health and the Marine-Hospital Service, be authorized to cooperate with this department in handling the subject, the entire matter to be under the supervision of the Secretary of the Interior.

It would be of material assistance if you would be willing to give at least an approximate estimate as to the necessary expenditures basing the figures on the work of such a commission for the first year, and also if you could express an opinion as to the number of years that would be required to complete the work.

It is believed that hospital facilities can be obtained at the Army and Navy General Hospital without cost other than the subsistence

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of patients. Information is especially desired as to the probable cost of the following items:

Compensation of expert.

Compensation of assistant.

Chemical laboratory equipment and operation (exclusive of building).

Number and cost of animals used for experimental purposes.

Number of healthy subjects to be employed for experimental purposes.

Number of patients to be observed.

Thanking you for any assistance you may be able to render, I am,

Very truly, yours,

HARRY M. HALLOCK,
Medical Director.

SHEFFIELD LABORATORY OF
PHYSIOLOGICAL CHEMISTRY, YALE UNIVERSITY,
New Haven, Conn., March 18, 1912.

Dr. HARRY M. HALLOCK,
Medical Director, Hot Springs Reservation,
Hot Springs, Ark.

MY DEAR SIR: I desire herewith to reply to your letters of February 29, and March 12, in regard to the advisability of undertaking a series of investigations upon the therapeutic and physiological effects of the baths at the Hot Springs Reservation. Several distinct questions raised in your communications must be answered independently.

In considering the probable value of any further elaborate research on the physiological effects of the waters it must be borne in mind that there already exists an enormous literature on balneotheraphy. The Government circular which accompanied the documents sent to me states that "the therapeutic value of the baths is dependent upon the radioactivity of the waters." This aspect of the subject has been under consideration in very recent years only. The observations on the physiological and therapeutic effects of radium emanation which have lately been reported by competent observers, e. g., from the clinics of His in Berlin and Von Noorden in Vienna, encourage the belief that there is a useful field of investigation in this direction which deserves careful and speedy attention. In justification for this statement I may quote from a recent communication from Prof. von Noorden and Dr. Falta in Vienna:

Die Emanationskuren haben einen mächtigen Einfluss auf wichtige Stoffwechselprozesse und auf den Erregungszustand des vegetativen Nervensystems und erfordern ebenso wie die Behandlung mit Kohlensäurebädern und andere Bade- oder Trinkkuren volle Hingabe an die Anforderungen der Kur. Es scheint ratsam, die Emanatorien hauptsächlich in Kurorten, Spitälern und Sanatorien zu errichten, wo die Patienten aus der Berufsarbeit ausgeschaltet sind. Naturgemass werden hierfür solche Kurorte die günstigsten Verhältnisse darbieten, wo auch natürliche Radiumbäder zur Verfügung stehen.

Emanation cures have a powerful influence on important processes of metabolism and on the excitability of the living nervous system and require, the same as treatment with carbonic acid and other bathing and drinking cures, a complete compliance with the requirements of the treatment.

It appears advisable to establish emanation cures principally in bathing resorts, hospitals, and sanitoria, where the paitents are removed from the usual work of their respective occupations.

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Naturally the most favorable conditions will be afforded by bathing resorts where natural radium baths are also available. (Translation of German quotation.)

I have no specific information at hand regarding the actual composition of the hot springs water; but if their radioactive properties are of sufficient significance to warrant scientific exploitation in the form here indicated, a careful and responsible investigation along the lines proposed is, in my judgment, both desirable and timely.

With respect to the conduct of such an investigation I am convinced that the cooperation of a number of men in different departments of research whose fitness in respect to both training and ability is widely recognized, would alone give any report the prominence and authority which is desired. No investigation will be worth while which fails to carry with it the stamp of scientific excellence and critique. In view of the circumstances involved it seems to me most practicable to have the responsibility for the plan and general execution of such an investigation invested in a commission. The latter should include men of acknowledged capacity in medical fields and the underlying sciences, both clinicians and physiologists (which of course includes the physiological chemist) who could not only broadly direct the scope of the work, but what is equally important could competently criticize and evaluate the data. The general objection to a commission constituted of delegates from county medical societies, etc., as indicated in your letter of February 29, lies in the unfitness of such individuals, as a rule, to contribute in any peculiarly useful or expert way to the real duties of such a commission. Their work is likely to be perfunctory, subject to the bias of local traditions or the influence of important home interests. It might also be difficult to induce first-class investigators to work under the direction of an unsympathetic board. A further highly advantageous feature of the commission system constituted of several competent scientists is the presumable elimination of the danger of errors from the judgment of single individuals. We have suffered enough in this country from such one-man pronouncements. Much useless and uncalled for work has been done in the name of science and under authoritative sanction owing to the elimination of critical review by competent colleagues.

The cost of a comprehensive investigation along the lines suggested will, of course, depend on its scope and on the personnel of the commission. Having in mind the necessary laboratory facilities and equipment, a number of laboratory workers (chemists, assistants, and helpers), eight or ten subjects, and their maintenance, and experimental animals, I estimate an outlay of at least $1,500 per month in this direction. To this should be added an initial cost of establishing a laboratory outfit. In Hot Springs (where no such outfit is now available) this ought not to exceed $2,000. To complete the budget for the first year the salary of a supervising physiological chemist must be added. It will be impossible to deflect anyone of the experience and rank of assistant professor in our universities to such work at a salary less than $3,000 per year. This would seem to me to represent the type of man to cooperate with the commission as proposed in my suggestion. A scientist of higher professional rating and ability ought to command a higher income for obvious reasons.

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An expenditure of about $25,000 for the first year is thus provided for. The estimates are based on my experience in such matters in larger researches in our laboratory, on the published budgets of the Carnegie Institution nutrition investigations, and on the experiences of the Referee Board of Consulting Scientific Experts of the United States Department of Agriculture. It must be borne in mind that there are no opportunities at Hot Springs to use the equipment of established research plants, such as universities. The cost of research may thus be raised. Such an investigation ought to give valuable indications within two years. From the standpoint of therapeutic evidence a longer collection of statistical data might be desirable.

In considering the make-up of a commission of three (or five) members in addition to the supervising physiological chemist and the medical director, I am inclined to believe that desirable individuals can be induced to serve from a sense of public duty and scientific interest, without what might strictly be termed a salary. Such individuals should, of course, receive compensation for traveling expenses, or similar outlay, together with a modest honorarium in proportion to the time required of them. The outlay thus involved is not taken into consideration in the above estimate because the amount involved will depend entirely on the plan followed. It may be noted that highly competent investigators, such as Prof. Reid Hunt of the Hygienic Laboratory of Washington, might be directly available through the cooperation of the Public Health and Marine-Hospital Service.

Will the results be commensurate with the expenditure involved? The answer depends on the mental attitude of those who expect the reply. If a group of foremost American citizens, whose experience and judgment is attested by their position, do not hesitate to authorize the expenditure of half a million dollars for astronomical research in one institution alone, and when successful American firms feel justified in expending $4,000 for a single page advertisement of an article of uncertain merit, shall we debate the question asked?

Finally, in reply to your tentative inquiry as to whether I would be willing to accept the appointment as physiological chemist, if it were formally tendered, I may say that my academic and research preferences and duties at present are such that I would not care to do so. If an occasion should arise in which I might be of service in some less direct way than through resident activity in Hot Springs—more specifically if I might be desired to cooperate in some advisory function—my readiness to serve might be considered.

Respectfully,

LAFAYETTE B. MENDEL.

P. S.—If a personal interview would be helpful to you in any way while you are making the preliminary plans I shall be glad to have you or other representatives meet me here or in some convenient place.

L. B. M.

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DEPARTMENT OF THE INTERIOR,
HOT SPRINGS RESERVATION,
OFFICE OF MEDICAL DIRECTOR,
Hot Springs, Ark., March 25, 1912.

Prof. LAFAYETTE B. MENDEL,
Sheffield Laboratory of Physiological Chemistry,
Yale University, New Haven, Conn.

DEAR PROF. MENDEL: I beg to acknowledge your letter of March 18, 1912, and desire to express my deep appreciation of the very careful consideration you have given to my inquiries.

All of the correspondence with reference to the proposed investigations will be forwarded to the Secretary of the Interior in due time and I am sure that the officials of the department in Washington will appreciate your courtesy as much as I do.

Very respectfully,

HARRY M. HALLOCK,
Medical Director.

DEPARTMENT OF THE INTERIOR,
HOT SPRINGS RESERVATION,
OFFICE OF MEDICAL DIRECTOR,
Hot Springs, Ark., February 8, 1912.

The SECRETARY OF THE INTERIOR,
Washington, D. C.

SIR: July 10, 1911, recommendation was made by this office that provision be made for a complete study of the physiological effects of the water of the hot springs. By letter from the department of December 6, 1911, I was instructed to "make due inquiry and ascertain if possible the name of some competent person to do this work and the compensation he would be willing to accept therefor." December 19, 1911, a circular letter was addressed to the secretary of the American Medical Association and to the secretaries of the leading medical colleges of the country outlining in a general way the proposed investigations and requesting the nomination, in each instance, by an appropriate committee of the faculty, of a biological chemist of recognized standing and ability. February 20, 1912, a circular letter was sent to each of the physiological chemists, recommended by the committees of the faculties referred to, giving a more detailed outline of the general proposition, requesting an expression of opinion as to the advisability of undertaking the study and an estimate of the cost. Only a few replies have been received so far. The general plan, however, is indorsed by Prof. Otto Folin of Harvard University, Prof. Victor Vaughan of the University of Michigan, Prof. A. E. Taylor of the University of Pennsylvania, and Prof. Ralph S. Lillie of the University of Pennsylvania. The secretary of the American Medical Association has expressed much interest and referred the letter to the council on therapeutic research. Prof. Otto Folin has furnished me with a list of the members of the American Society of Biological Chemists.

The proposed undertaking is one of considerable magnitude. Such a series of investigations would require at least a year and quite possibly two or three years. A chemical analysis of the water is a simple

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proposition. The study of the physiological effects involving obscure changes in the metabolism of the living body is an extremely difficult problem. It is quite within the bounds of possibility that definite results could not be obtained. It therefore appears desirable to obtain an expression of opinion from a considerable number of competent men as to the advisability of undertaking the work and the probability of its yielding scientific data that will be of real value to the medical profession and through them to suffering humanity. It is also believed that as full indorsement of the plan should be secured as possible in connection with the effort to secure from Congress the necessary appropriation.

I have accordingly prepared a circular letter, a copy of which is inclosed with the intention, if it meets with the approval of the department, of forwarding a copy to every member of the American Society of Biological Chemists and to the professors who are occupying the chairs of the practice of medicine and of therapeutics and materia medica in the class A medical colleges These are the men who are most directly in touch with the problems involved and with clinical medicine. It is believed that this plan will bring a sufficient number of replies from competent sources to settle definitely any possible question as to the advisability of undertaking the work.

As it is impracticable with the clerical assistance available to promptly conduct the correspondence involved, I have the honor to request that the department have the circular letter multigraphed and that I be furnished, for inclosure, copies of the circular of general information and the medical director's annual report.

The number of each required is as follows:

Circular letter multigraphed	200
Medical director's annual report	200
Circular of general information	200

There has been forwarded to the department, under separate cover, 225 letter heads for the multigraphed letter.

Very respectfully,

HARRY M. HALLOCK,
Medical Director.

DEPARTMENT OF THE INTERIOR,
HOT SPRINGS RESERVATION,
OFFICE OF MEDICAL DIRECTOR,
Hot Springs, Ark., ——— —.

SIR: The Secretary of the Interior is considering the advisability of conducting a series of experiments for the purpose of determining the physiological effects of the water of the hot springs of Arkansas. The faith of the laity in its remedial and curative properties is well established, and a steadily increasing number come to the springs each year for treatment. There are now upward of 100,000 visitors annually. Through the establishment of the office of the medical director there is now direct medical supervision over the administration of the baths and an earnest effort is being made by the Federal Government to place the medical service on a high ethical plane. As part of this general policy it is thought that a study of the physiological effects of the water is of first importance.

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A complete chemical examination has been made by Prof. J. K. Haywood of the Bureau of Chemistry of the Department of Agriculture and by Prof. Walter Harvey Weed of the United States Geological Survey. In 1905 the department secured the services of Prof. B. B. Boltwood and Prof. Joseph Hyde Pratt for further analysis. Their report contains the following conclusions:

(1) The waters of the springs on the Hot Springs Reservation are all radioactive to a marked degree.

(2) The radioactivity of the waters is due to dissolved radium emanation (a gas) and not to the presence of salts of radium or other radioactive solids.

(3) The tufa deposited by the springs does not contain appreciable traces of radium.

A letter has been received from the secretary of the council on pharmacy and chemistry of the American Medical Association stating that the council's committee on therapeutic research has been planning to secure the cooperation of scientists for a thorough study of the therapeutic value of mineral waters, and it is also noted that at the sixty-second annual session of the American Medical Association held at Los Angeles June 26 to 30, 1911, the following resolution was passed:

Owing to the importance attributed to radioactive mineral waters in the treatment of gouty and other affections by competent European observers and the special interest excited by the symposium on the subject at the Thirty-second Balneologic Congress recently held in Berlin, the section on pharmacology and therapeutics of the American Medical Association requests the House of Delegates to suggest to the United States Government the advisability of investigating the radioactivity of the various mineral waters of the United States and publishing the results for the benefit of the medical profession.

The arrangement contemplated by the Secretary of the Interior includes the securing of the services of a competent physiological chemist to work in conjunction with a commission of medical men. It is thought that investigations would extend over one and possibly over several years. It is believed that an appropriation from Congress can be obtained for the purpose and that the cooperation of the Medical Departments of the Army, of the Navy, and of the Marine-Hospital Service can be had, together with the facilities of the Army and Navy General Hospital at Hot Springs.

It is not desired to enter this field for commercial exploitation but to determine the legitimate therapeutic value of the water, and to secure the respect and support of the medical profession with a view to the development in our own country of a spa that will compare favorably with resorts of like character abroad.

Before requesting an appropriation from Congress for this work it is desired to obtain from competent sources an expression of opinion as to whether there is a reasonable probability that a series of biochemical investigations conducted by competent observers upon animals and upon human beings, both the sick and the well, would yield results that would be of value to the medical profession and through them to suffering humanity. In other words, is the subject a legitimate and proper one for scientific research from the standpoint of clinical medicine.

There are inclosed for your information certain reports and papers relative to the subject, and it is hoped you will favor the department with an expression of your opinion. Should you advise that the

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work be undertaken, any recommendations you may be willing to submit as to the best method of procedure will be carefully considered.

Thanking you for any assistance that you may be able to render, I beg to remain,

Very truly, yours, HARRY M. HALLOCK,
Medical Director.

THE UNIVERSITY OF ILLINOIS,
Urbana, Ill., March 21, 1912.

Dr. HARRY HALLOCK,
Medical Director, Hot Springs Reservation,
Hot Springs, Ark.

MY DEAR DR. HALLOCK: Your communication concerning the proposition to ask Congress for an appropriation to cover the expense of an exhaustive investigation into the physiological effect of the hot springs water has just reached me.

A thoroughly scientific study of a far-reaching character of this most important topic would without doubt yield data of immense importance to the physical welfare of the citizens of our own and other countries. I was extremely gratified when the American Medical Association in session at Los Angeles passed the resolution to which reference is made in your letter.

The pronounced benefits to be derived from the proper use of water both externally and internally have not been fully appreciated by the medical fraternity, to say nothing of the laity. For a period of two to three years we have been devoting considerable time to the question of physiological effect of ingested water. Under separate cover I am sending you reprints of some of our publications. According to our data the free use of water with meals or between meals is of great benefit to the human organism from every standpoint investigated. We have also been interested in the physiological effect of baths but have been unable to investigate the subject because of the fact that the investigations on water drinking and on fasting have demanded the major portion of the energy of myself and staff. In connection with one of our studies we made a short superficial study of hot baths, using two normal men as subjects. The data are not yet in form for publication.

I trust that you may be successful in convincing Congress of the very great need for an extended series of investigations such as you propose. I say "extended" advisedly for you will most certainly need to investigate a large number of cases both normal and clinical over a considerable period of time before you will feel warranted in announcing your final conclusions. Work of this character to meet the approval of the scientific world must of necessity be done by men of proven ability. The experimental staff would of necessity be large in order to properly conduct an investigation of that character. It is my belief that a staff of 10 to 15 men with scientific or medical training would be required to investigate such a problem from all sides, e. g., clinical, bacteriological, pathological, chemical, biochemical, and physiological.

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I have outlined no definite plan of procedure but have simply attempted to impress one or two matters of prime importance in the preliminary organization of such an extensive study as is proposed. My personal scientific and research interests have always occupied channels such as must of necessity be followed by your hot springs investigation and for that reason it will give me great pleasure to be of any possible assistance to you in your attempt to interest Congress in this most worthy and humane proposition.

Very sincerely,

P. B. HAWK,
Professor of Physiological Chemistry.

AMERICAN MEDICAL ASSOCIATION,
COUNCIL ON PHARMACY AND CHEMISTRY,
Chicago, December 23, 1911.

Maj. H. M. HALLOCK,
Medical Director, Hot Springs Reservation,
Hot Springs, Ark.

DEAR SIR: Dr. A. R. Craig, secretary of the American Medical Association, has referred your letter of December 19 to me. I am submitting your inquiry to the council and it will receive very careful consideration.

It may interest you to know that the council's committee on therapeutic research has been planning to secure the cooperation of scientists for a thorough study of the therapeutic value of mineral waters.

Yours, truly,

W. A. PUCKNER, *Secretary.*

AMERICAN MEDICAL ASSOCIATION,
COUNCIL ON PHARMACY AND CHEMISTRY,
Chicago, January 19, 1912.

Maj. H. M. HALLOCK,
Medical Director, Hot Springs Reservation,
Hot Springs, Ark.

DEAR SIR: Your letter of December 19 having been referred to the council's committee on therapeutic research, the chairman, Dr. Torald Sollmann, asked me to reply that it would appear impossible to make any suggestions to you until more definite information is available regarding the intended scope of the investigation. He believes that it is doubtful that the physiological effects of the waters could be determined by one individual—certainly not by a physiological chemist. It is Dr. Sollmann's opinion that it would probably require a commission working through a series of experiments extending over some years.

If the council or its research committee can give you any further aid it will be glad to do so.

Yours, truly, W. A. PUCKNER, *Secretary.*

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DEPARTMENT OF THE INTERIOR,
HOT SPRINGS RESERVATION,
OFFICE OF MEDICAL DIRECTOR,
Hot Springs, Ark., February 20, 1912.

Mr. W. A. PUCKNER,
Secretary American Medical Association,
Chicago, Ill.

DEAR SIR: Replying to your letter of January 19, 1912, in answer to my inquiry of December 19, 1911, on the subject of the determination of the physiological effects of the waters of the hot springs of Arkansas, you state—

Dr. Torald Sollman asked me to reply that it would appear impossible to make any suggestions to you until more definite information is available regarding the intended scope of the investigation. He believes that it is doubtful that the physiological effects of the waters could be determined by one individual—certainly not by a physiological chemist. It is Dr. Sollmann's opinion that it would probably require a commission working through a series of experiments extending over some years.

If the council or its research committee can give you any further aid, it will be glad to do so.

The therapeutic value of the springs in certain conditions appears to be well established by popular concensus of opinion of the many who have been benefited and by physicians who have had an opportunity to observe the effects of the use of the water. Heretofore commercialism has had an undue influence in local conditions and in the administration of the baths. Direct medical supervision was established September, 1910, by the creation of the office of medical director, and an effort is now being made to develop, along legitimate and ethical lines, whatever therapeutic resources are inherent in the waters and in the resort.

It is believed that an appropriation can be obtained from Congress for the purpose of conducting a series of experiments to determine the physiological effect of the water, and that such work could be undertaken by a commission consisting of a physiological chemist, the medical director of the reservation, the Federal registration board, all of whom are practicing physicians familiar with the use of the waters, and possibly one or more members of the county medical society. It is thought that the facilities of the Army and Navy general hospital could be obtained and possibly the cooperation of members of the medical departments of the Army and Navy, and of the Marine-Hospital and Public-Health Service. It is assumed that the work would extend over a considerable period.

The most important point to determine at present is whether it is worth while to undertake this work; whether there is a reasonable probability that a study of the blood, the excretions, etc., in health and in disease, would give data as to the physiological effects and indications for the administration of the water that would be of value of the medical profession of the country and through them to suffering humanity.

There are inclosed certain reports and papers that have some bearing on the subject, and if the council or its research committee would be willing to express an opinion as to the advisability of attempting this research along the lines suggested, or on any modifications of them, their action, opinion, or recommendation would be valued highly and most carefully considered.

Very respectfully,

HARRY M. HALLOCK,
Medical Director.

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AMERICAN MEDICAL ASSOCIATION,
COUNCIL ON PHARMACY AND CHEMISTRY,
Chicago, February 23, 1912.

DR. H. M. HALLOCK,
Hot Springs Reservation,
Hot Springs, Ark.

DEAR DR. HALLOCK: I have received your letter of February 20 and shall transmit it to the council.

Personally, I am very much interested in the proposed investigation and I hope that the council may be of some aid in solving the problems. I will write you further as soon as the matter has received consideration.

Yours, truly,

W. A. PUCKNER,
Secretary.

HARVARD UNIVERSITY,
Cambridge, Mass., December 22, 1911.

MY DEAR SIR: Your letter of December 19, in regard to a physiological chemist to conduct some experiments with the water of the hot springs of Arkansas, has been received.

I am referring it to the secretary of the Harvard Medical School, Dr. Channing Frothingham, jr., who will, I hope, be able to recommend to you a competent man for the work.

Sincerely, yours,

E. H. WELLS.

HARRY M. HALLOCK, M. D.

HARVARD UNIVERSITY MEDICAL SCHOOL,
Boston, Mass., December 27, 1911.

DR. HARRY M. HALLOCK.

DEAR MR. HALLOCK: Your letter of December 19 is at hand, and I have referred it to Prof. Otto Folin, our professor of biological chemistry. I feel sure that he will be able to suggest some one to you if there is anyone available around this part of the country.

Very truly, yours,

C. FROTHINGHAM, JR.,
Secretary.

DEPARTMENT OF BIOLOGICAL CHEMISTRY,
HARVARD MEDICAL SCHOOL,
Boston, January 2, 1912.

DR. HARRY M. HALLOCK,
Hot Springs, Ark.

DEAR SIR: Your letter to Harvard University regarding a biochemical investigation of the physiological effect of the hot springs water has been referred to me for an answer. In my opinion it is not possible to determine the "exact physiological effects" of that water with any such degree of certainty as to meet with general and unqualified acceptance. An investigation of the kind referred to

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would be very expensive and in the hands of a properly qualified and conscientious expert might yield practically negative or at least very doubtful results.

If you, after reading these comments, still believe that your department is justified in having this work done and will let me know, I will send you a list of the best men in the country qualified in the field involved.

Very truly, yours, OTTO FOLIN.

DEPARTMENT OF THE INTERIOR,
HOT SPRINGS RESERVATION,
OFFICE OF MEDICAL DIRECTOR,
Hot Springs, Ark., February 21, 1912.

Prof. OTTO FOLIN,
Harvard Medical School,
Boston, Mass.

SIR: I beg to acknowledge and thank you for your letter of January 2, 1912, with reference to the determination of the physiological effects of the water of the hot springs of Arkansas. In it you state:

> In my opinion it is not possible to determine the "exact physiological effects" of that water with any such degree of certainty as to meet with general and unqualified acceptance. An investigation of the kind referred to would be very expensive and in the hands of a properly qualified and conscientious expert might yield practically negative or at least very doubtful results.
>
> If you, after reading these comments, still believe that your department is justified in having this work done, and will let me know, I will send you a list of the best men in the country qualified in the field involved.

The therapeutic value of the baths in certain conditions appears to be well established. The faith of the laity in the curative properties of the water has steadily increased despite the unfavorable local conditions of the past, and many physicians believe that this resort is destined to become one of the great spas of the world. Before the creation of the office of medical director the medical features of the service were largely overshadowed by the commercial spirit. An earnest effort is now being made to place the treatment of patients and the administration of the baths on a high ethical plane and in developing the medical service it was thought that a study of the physiological effects of the waters should be undertaken.

A part of the general plan was to secure the services of an expert physiological chemist to conduct a series of experiments working in conjunction with a commission to consist of the medical director of the reservation, the Federal board of medical examiners, and possibly one or more delegates from the county medical society. This work would probably extend over a period of a year or more. It is believed that an appropriation can be obtained from Congress and that the cooperation of the Secretary of War, the Secretary of the Navy, and the Public Health and Marine-Hospital Service can be secured as well as such facilities as can be extended by the Army and Navy general hospital.

I am in receipt of a letter from the secretary of the council on pharmacy and chemistry of the American Medical Association stating that the council's committee on therapeutic research has been planning to secure the cooperation of scientists for a thorough study of

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the therapeutic value of mineral waters, and I also note that at the sixty-second annual session of the American Medical Association held at Los Angeles, June 26 to 30, 1911, the following resolution was passed:

Owing to the importance attributed to radioactive mineral waters in the treatment of gouty and other affections by competent European observers, and the special interest excited by the symposium on the subject at the Thirty-second Balneologic Congress recently held in Berlin, the section on pharmacology and therapeutics of the American Medical Association requests the house of delegates to suggest to the United States Government the advisability of investigating the radioactivity of the various mineral waters of the United States and publishing the result for the benefit of the medical profession.

The water of the hot springs has been examined by Profs. B. B. Boltwood and Joseph Hyde Pratt, chemists, of New Haven, Conn., as to its radioactivity and their report contains the following conclusions:

(1) The waters of the springs on the Hot Springs Reservation are all radioactive to a marked degree.
(2) The radioactivity of the waters is due to dissolved radium emanation (a gas) and not to the presence of salts of or other radioactive solids.
(3) The tufa deposited by the springs does not contain appreciable traces of radium.

The first point to determine is whether there is a reasonable probability that such a series of investigation would yield results of value to the medical profession and through them to suffering humanity. It is not desired to enter upon a fool's errand or to undertake the work with any view toward commercial exploitation, but rather to determine the legitimate therapeutic value of the water and of the resort and to obtain the respect and support of the medical profession in the development in our own country of a spa that will compare favorably with the resorts of like character abroad.

There is inclosed for your information certain reports and circulars bearing on the subject in a general way, and if after reading this more detailed explanation you are willing to advise as to whether or not the department would be justified in taking up this work you would confer a service that would be greatly appreciated.

Very respectfully,

HARRY M. HALLOCK,
Medical Director.

DEPARTMENT OF BIOLOGICAL CHEMISTRY,
HARVARD MEDICAL SCHOOL,
Boston, February 27, 1912.

Dr. H. M. HALLOCK,
Hot Springs, Ark.

DEAR SIR: Your letter of February 21, together with the reports and circulars on the hot springs water, has thrown new light on the subject so far as I am concerned. If the facts reported by Dr. Martin are substantially correct the effects of the water constitute a legitimate and important subject for research from the standpoint of metabolism as well as from the standpoint of clinical medicine.

Before any serious metabolism work could be undertaken something in the way of a chemical laboratory would have to be arranged for. That laboratory would not need to be large and would be of permanent value, for in a place of that sort where so many sick

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people come there should be facilities for making chemical examinations in connection with the treatment of patients. As such it might be made practically self-supporting. I have never been in Hot Springs and therefore have no idea as to the facilities now available. I believe that you are justified in going ahead with the work of securing an appropriation from Congress for such work. You might perhaps go ahead with greater confidence after consulting with other experts in biochemistry. I, therefore, send you a list of the members of the American Society of Biological Chemists.

So far as the actual biochemical investigation is concerned it looks to me as though it would be necessary to virtually get two men, one of high standing and recognized ability to plan and direct the work in conjunction with the commission referred to in your letter, and an assistant to stay at Hot Springs all the time till the work is finished. All the mature and recognized men hold positions which they, of course, can not give up for a temporary work like that involved at Hot Springs. There is a certain element of danger in that arrangement, too, unless the director also is required to spend a considerable time on the spot, and the assistant must be no beginner, for much will depend on his keenness and discrimination.

If I can assist you further, don't hesitate to write me again.

Very truly, yours,

OTTO FOLIN.

Dr. H. M. HALLOCK,
Hot Springs, Ark.

DEPARTMENT OF THE INTERIOR,
HOT SPRINGS RESERVATION,
OFFICE OF MEDICAL DIRECTOR,
Hot Springs, Ark., March 4, 1912.

Prof. OTTO FOLIN,
Harvard Medical College, Boston, Mass.

SIR: I beg to acknowledge your letter of February 27, 1912, and desire to express my appreciation of your interest and to thank you for the assistance you have so willingly given.

In the last paragraph you state, "If I can assist you further, don't hesitate to write me again."

It is the desire of the department to have a bill introduced at the present session of Congress asking for an appropriation for carrying on the work of a commission in determining the physiological and therapeutic effects of the waters of the hot springs. The time is rather short and in all probability it will be necessary to determine the details of the work and to appoint the personnel at a later date. In order to determine the sum to be requested, however, it is necessary to have an estimate of the cost of the investigations.

I am in receipt of a letter from the department which reads in part as follows:

> I have to request that you will take up the subject with the other members of the Federal registration board and submit a general outline as to the amount of money which you think should be appropriated by Congress for this purpose, such appropriation to include compensation of physicians employed, laboratory facilities, appliances, and hospital facilities in connection with the matter.

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In submitting the estimate of the amount to be appropriated for this purpose a lump sum will be asked for, out of which all necessary expenses, including compensation of experts, etc., is to be paid, and it is also proposed to suggest to Congress that the Secretary of War, the Secretary of the Navy, and the Public Health and Marine-Hospital Service, be authorized to cooperate with this department in handling the subject, the entire matter to be under the supervision of the Secretary of the Interior.

It would be of material assistance if you would be willing to give at least an approximate estimate as to the necessary expenditures basing the figures on the work of such a commission for the first year, and also if you could express an opinion as to the number of years that would be required to complete the work.

It is believed that hospital facilities can be obtained at the Army and Navy general hospital without cost other than the subsistence of patients. Information is especially desired as to the probable cost of the following items:

Compensation of expert.

Compensation of assistant.

Chemical laboratory equipment and operation (exclusive of building).

Number and cost of animals used for experimental purposes.

Number of healthy subjects to be employed for experimental purposes.

Number of patients to be observed.

Thanking you for any assistance you may be able to render, I am,

Very truly, yours,

HARRY M. HALLOCK,
Medical Director.

JEFFERSON MEDICAL COLLEGE,
Philadelphia, December 26, 1911.

HARRY M. HALLOCK,
Medical Director, Hot Springs Reservation,
Hot Springs, Ark.

DEAR DOCTOR: Your letter of December 19, 1911, will be referred to the appropriate committee of our faculty immediately after the termination of the holidays.

Believe me, very truly, yours,

ROSS V. PATTERSON, M. D.,
Subdean.

JEFFERSON MEDICAL COLLEGE,
Philadelphia, January 8, 1912.

HARRY M. HALLOCK, M. D.,
Medical Director, Hot Springs, Ark.

DEAR SIR: Your letter of December 19, 1911, has been referred to me to name a physiological chemist.

I can heartily recommend, for the inquiry referred to, Prof. Victor Vaughan, M. D., University of Michigan, Ann Arbor, Mich.

Respectfully,

J. W. HOLLAND,
Professor of Medical Chemistry.

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UNIVERSITY OF MICHIGAN,
DEPARTMENT OF MEDICINE AND SURGERY,
Ann Arbor, March 4, 1912.

Dr. HARRY M. HALLOCK,
Medical Director, Hot Springs,
Hot Springs, Ark.

DEAR DOCTOR: Your letter and the papers accompanying it have interested me very much. If it be true in any large number of cases that immersion of the body, or a part of the body, in water causes the body temperature to go several degrees higher than the temperature of the water, this is a most interesting question. It should certainly be investigated. I know of no other water in the world of which this is true. I have made a study of some of the great medicinal springs, such as those of Carlsbad, and I am quite sure that there is not another water in the world that does anything like this. It seems to me that the matter is of enough importance to justify a thorough and scientific investigation. I wish to make the following suggestion: It seems to me that it would be well for a medical board to be convened at Hot Springs for a period of 10 days to make a preliminary investigation, and report to the Department of the Interior as to what, in the opinion of the board, should be done. This board might consist of a few medical officers detailed from the Army, Navy, and Public Health Service. If such a thing as this is done, I should like very much to be on the board. I am a member of the Reserve Corps of the Army, and could be ordered on such service if the Surgeon General wishes. Please think this over and let me know what you decide about it. It seems to me that this would be the best way to get at it. If it is decided to undertake a thorough study, such a board as I have mentioned could map out the way in which the work should be done.

Thanking you very much, and with best wishes, I am,

Yours, truly,

V. C. VAUGHAN.

DEPARTMENT OF THE INTERIOR,
HOT SPRINGS RESERVATION,
OFFICE OF MEDICAL DIRECTOR,
Hot Springs, Ark., March 8, 1912.

Prof. VICTOR VAUGHAN, M. D.,
University of Michigan, Ann Arbor, Mich.

MY DEAR PROF. VAUGHAN: I beg to acknowledge your letter of March 4, 1912, in reply to my inquiries of February 20, and to thank you for your interest and the careful consideration you have given the matter. Your suggestion as to the appointment of a preliminary board to be assembled at Hot Springs for the purpose of making a report to the department will be borne in mind. It will take some little time to arrange the details of the proposed investigations but there is one point that it is greatly desired to have settled at once, and that is the amount of money that should be requested as an appropriation by Congress for carrying on the work.

I am in receipt of a letter from the department which reads in part as follows:

I have to request that you will take up the subject with the other members of the federal registration board and submit a general outline as to the amount of money

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which you think should be appropriated by Congress for this purpose, such appropriation to include compensation of physicians employed, laboratory facilities, appliances, and hospital facilities in connection with the matter.

In submitting the estimate of the amount to be appropriated for this purpose a lump sum will be asked for, out of which all necessary expenses including compensation of experts, etc., is to be paid, and it is also proposed to suggest to Congress that the Secretary of War, the Secretary of the Navy, and the Public Health and Marine-Hospital Service, be authorized to cooperate with this department in handling the subject, the entire matter to be under the supervision of the Secretary of the Interior.

It would be of material assistance if you would be willing to give at least an approximate estimate as to the necessary expenditures basing the figures on the work of such a commission for the first year, and also if you could express an opinion as to the number of years that would be required to complete the work.

It is believed that hospital facilities can be obtained at the Army and Navy general hospital without cost other than the subsistence of patients. Information is especially desired as to the probable cost of the following items:

Compensation of expert.

Compensation of assistant.

Chemical laboratory equipment and operation (exclusive of building).

Number and cost of animals used for experimental purposes.

Number of patients to be observed.

Thanking you for any assistance you may be able to render, I am,

Very truly yours,

HARRY M. HALLOCK,
Medical Director.

UNIVERSITY OF MICHIGAN,
DEPARTMENT OF MEDICINE AND SURGERY,
Ann Arbor, March 11, 1912.

Dr. HARRY M. HALLOCK,
Medical Director, Hot Springs Reservation,
Hot Springs, Ark.

DEAR DOCTOR: In reply to yours of March 8 I will say that it would be necessary to equip and supply a laboratory. There would have to be tables, sinks, shelves, benches for balances, at least two first-class balances, at least two good microscopes, a full set of chemicals, beakers, graduates, buretts, recording apparatus, drums, in fact everything necessary for a first-class pharmacological laboratory. The research part of our pharmacological laboratory, not counting the part devoted to students, inventories about $5,000. This of course does not include the room nor the permanent equipment of the room. I should say for laboratory purposes there should be an appropriation of about $10,000. The director of the laboratory should have a salary of $5,000. There should be two good assistants, each of whom should receive a salary of $3,500. There should be two subassistants, each of whom should receive $2,000. There should be two laboratory servants, each of whom should receive $1,000. The cost of animals used for experimental purposes would not be less than $500. There should be not less than 200 patients under observation, while 25 normal persons should be used for controls. I can not give you any estimate as to what this would cost. The figures that I have given,

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except for laboratory equipment, of course mean annual expenditures. I think provision should be made for two years of work.

Probably this will give you enough to assist you in figuring out what appropriation you should ask for. If I can be of further service to you in this matter please consider me at your command.

Yours, truly,

V. C. VAUGHAN.

UNIVERSITY OF PENNSYLVANIA,
Philadelphia, December 22, 1911.

MY DEAR SIR: I beg to acknowledge receipt of your letter of the 19th instant in regard to experiments with a view to determining the physiological effects of the water of the hot springs of Arkansas. I shall take pleasure in referring this matter to the dean of our school of medicine, with the request that he be kind enough to make any suggestion that may be feasible in the matter.

Believe me, very sincerely, yours,

EDWARD ROBINS, *Secretary.*

HARRY M. HALLOCK, M. D.,
Medical Director, Department of the Interior,
Hot Springs, Ark.

UNIVERSITY OF PENNSYLVANIA,
Philadelphia, December 22, 1911.

Mr. H. M. HALLOCK,
Hot Springs, Ark.

MY DEAR MR. HALLOM: Your letter to the secretary of the University of Pennsylvania has been referred to me for reply. I would suggest to you the name of Prof. A. E. Taylor, our professor of physiological chemistry, medical school of the University of Pennsylvania. You may know of him as one of the so-called Remsen board connected with the United States Department of Agriculture. He is at present in California but will return in about 10 days, and a letter addressed to him at the medical school of the University of Pennsylvania will reach him within a short time. If he can not personally undertake the work, very possibly he can arrange to have it done under his direction by some of his assistants.

Very sincerely,

A. J. SMITH, *Dean.*

UNIVERSITY OF PENNSYLVANIA,
Philadelphia, February 23, 1912.

Dr. H. M. HALLOCK
Hot Springs, Ark.

MY DEAR DR. HALLOCK: In reply to your communication in reference to taking up work on a commission to investigate the waters of the hot springs, it will not be possible for me to give you any reply until I know more about it. How much time would be consumed? How much time would need to be spent there? Of course, scientific

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results could be reached by proper investigations. If you will let me know what would be expected I will be in a position to say whether I could be available.

Thanking you, I am, very truly, yours,

A. E. TAYLOR.

DEPARTMENT OF THE INTERIOR,
HOT SPRINGS RESERVATION,
OFFICE OF MEDICAL DIRECTOR,
Hot Springs, Ark., February 28, 1912.

Prof. A. E. TAYLOR,
University of Pennsylvania,
Philadelphia, Pa.

SIR: Replying to your letter of February 23, requesting further information as to the proposed investigation of the physiological effects of the water of the hot springs of Arkansas, I beg to say that it is believed that it would be necessary for whoever undertakes this work to be present in Hot Springs and to devote practically his entire time to it. It is thought that the series of experiments would extend over the period of one year, and that by the expiration of that time it would be possible to determine whether it would be worth while to continue them longer. These observations would naturally be directed toward noting changes in metobolism, excretion, secretion, blood changes, and variation of vascular tension, both in the sick and in the well. The investigator would have largely to plan his own work, the object being to define if possible the legitimate therapeutic value of the water in the various forms of its administration. There is at present more or less difference of opinion on all these points.

It is desired to have the observations conducted in a way and by one whose work will be accepted by the medical profession as reliable and ethical to the general, and that we may have in our own country a spa that will compare favorably with places of like character abroad.

The first point to be determined is whether by investigations of this character it would be possible to arrive at sufficiently definite results to warrant the undertaking. The second point to be determined is an approximate estimate, as much in detail as practicable, of the cost.

Very respectfully,

HARRY M. HALLOCK,
Medical Director.

COLUMBIA UNIVERSITY,
COLLEGE OF PHYSICIANS AND SURGEONS,
New York, January 18, 1912.

Dr. HARRY M. HALLOCK,
Medical Director, Hot Springs Reservation,
Hot Springs, Ark.

DEAR SIR: Our faculty referred your letter of December 19 to Dr. William J. Gies, professor of biological chemistry, and Dr. Gies writes in reply as follows:

I desire to nominate Jacob Rosenbloom, M. D., Ph. D., associate in biological chemistry, as a physiological chemist competent to conduct the proposed series of

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experiments on the physiological effects of the water of the hot springs of Arkansas. I assume that the work will offer such remuneration as would enable Dr. Rosembloom to give all his time an attention to the investigation. His thorough medical training and his extended chemical experience here, and his numerous investigations of the past few years, convince me that he would be more than ordinarily competent to conduct the work to which the medical director of the Hot Springs Reservation refers in his letter of December 19, which you have submitted to me.

I trust that this answers your inquiry of December 19.

Yours, very truly,

SAML. W. LAMBERT, *Dean.*

COLUMBIA UNIVERSITY,
COLLEGE OF PHYSICIANS AND SURGEONS,
New York, December 23, 1911.

Dr. HARRY M. HALLOCK,
Medical Director, Hot Springs Reservation,
Hot Springs, Ark.

DEAR SIR: In reply to your letter of December 19, I would state that your inquiry will be placed before the faculty of medicine at their meeting on Monday, January 15. Their decision will be communicated to you as soon as possible after that meeting.

Yours, very truly,

SAML. W. LAMBERT, M. D., *Dean.*

PHILADELPHIA, PA., *March 1, 1912.*

MY DEAR DR. HALLOCK: I have your kind letter. It would not be possible for me to undertake any such work as you have detailed. You have the correct plan, and I wish you success in it.

Very truly, yours,

A. E. TAYLOR.

COLUMBIA UNIVERSITY,
COLLEGE OF PHYSICIANS AND SURGEONS,
New York, March 27, 1912.

DEAR DR. HALLOCK: I have read with care and attention your communication of recent date and the documents that came with it. I am convinced that it would be in the public interest to conduct a thorough investigation on the waters in the hot springs of Arkansas. It is obvious that positive therapeutic value, if such is possessed by the waters, might be clearly established by adequate investigation. It is just as clear that lack of curative properties would be shown by proper investigations if remedial qualities were lacking. Either result would provide knowledge of public utility. Should it ultimately be decided to proceed with such work, it would give me pleasure to nominate Prof. William H. Welker, of this department, to take charge of it.

Prof. Welker cooperated with me several years ago in a research on the effects of radium after its introduction into the body, and his training as a physicist, chemist, and biologist makes him particularly competent to conduct work of the kind in the proposed research

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under consideration. Prof. Welker's family have for some time preferred to live in a smaller city than New York, and I am confident you would find him ready to accept appointment in this relation, providing it would make it possible for him financially to accept.

Yours, very truly,

WM. J. GIES.

UNIVERSITY OF PENNSYLVANIA,
Philadelphia, February 28, 1912.

The MEDICAL DIRECTOR, HOT SPRINGS RESERVATION,
Hot Springs, Ark.

DEAR SIR: I have your letter of February 20, informing me of the plan, lately taken under consideration by the Secretary of the Interior, of conducting a series of investigations in reference to the physiological action of the water at Hot Springs, and inquiring as to my opinion of the probable value of such an investigation and my own willingness to take part in it.

In view of the number of persons who go to Hot Springs in hope of being benefited by the baths, I am decidedly of the opinion that such an investigation should be undertaken, and conducted completely—and of course impartially—with the object simply of ascertaining what definite and demonstrable physiological effects the water is capable of producing. There is no doubt that the reports of cures, and the claims made by persons whose health has been improved while or after taking the baths, are often highly inaccurate and misleading. Post hoc is not propter hoc, and the only way of finding whether any connection exists between the properties of the water and the benefit gained by patients who undergo treatment at the springs is a scientific investigation conducted by entirely unbiased and properly qualified persons. There is no doubt that the results of any such carefully conducted investigation would be of value both to science and to the medical profession.

I am, however, not prepared to accept an appointment of the kind you describe. I am not a medical man, and I have never engaged in any investigations having a purely medical bearing, so that I feel myself unqualified to take part in an investigation of this nature. There are, however, a considerable number of physiological chemists in the country who are primarily interested in the medical applications of their science, and there would, I believe, be little difficulty in securing the services of one or more well qualified investigators.

Thanking you for your courtesy, and appreciating the honor implied in your offer, I remain,

Yours, very truly, RALPH S. LILLIE.

COLUMBIA UNIVERSITY BIOCHEMICAL ASSOCIATION,
New York, March 14, 1912.

MY DEAR DR. HALLOCK: Your letter of the 20th just received on my return to the city from a western trip.

I think results could be obtained from the work you mention that would well commensurate with the expenditure involved. * * *

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It is impossible for me to state what the work would cost without a full knowledge of the exact scope of the work.

Respectfully,

JACOB ROSENBLOOM.

PENNSYLVANIA STATE COLLEGE,
INSTITUTE OF ANIMAL NUTRITION,
State College, Pa., March 20, 1912.

Dr. HARRY M. HALLOCK,
Medical Director, Hot Springs Reservation,
Hot Springs, Ark.

DEAR SIR: I am in receipt of your letter of March 16, and in reply would say that a scientific investigation of the therapeutic value of the water of hot springs seems to me a very desirable undertaking, both as a means of increasing scientific knowledge of the general subject and as a practical measure to better utilize this natural resource.

As regards methods, I do not feel competent to make any suggestions other than the very obvious one that it is essential that the committee or commission charged with this work should be composed of men whose scientific standing and personal character will put the results of their work above criticism. If it is possible to secure such men, they would be more competent than anyone else to determine upon the methods to be followed, and if they were not competent to do this they would not be suitable members of a commission.

Very respectfully, yours,

W. P. ARMSBY, *Director.*

CATONSVILLE, MD., *March 21, 1912.*

Dr. H. M. HALLOCK,
Hot Springs, Ark.

DEAR DOCTOR: For more than 20 years the physiological action of certain mineral waters has been a puzzle to me. I could not explain why a carefully prepared artificial imitation of certain natural waters would not act alike, even when the natural water was not taken at the source but bottled and shipped away. The chemical analyses showed the same constituents in the same proportions, and yet I was forced to admit through evidence before my eyes that the physiological action of the waters was not identical.

The thought sometimes occurred to me that our analytical methods were not sufficient to show the presence of some agent or agents imparting such properties to the respective waters. It was, therefore, I might say, a relief to my troubled mind when, through the wonderful discovery of radium and radioactivity a possible explanation might be found.

From these remarks you may readily draw the conclusion that I am thoroughly in favor of any steps which may lead through a scientific study to definite results.

Very truly, yours,

Dr. W. SIMON,
College of Physicians and Surgeons,
Baltimore, Md.

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SHEFFIELD LABORATORY
OF PHYSIOLOGICAL CHEMISTRY,
YALE UNIVERSITY,
New Haven, Conn., March 22, 1912.

Dr. H. M. HALLOCK,
Hot Springs, Ark.

DEAR SIR: In reply to your communication of the 16th concerning the advisability of making an experimental study of the influence of the hot springs waters upon the body, I would say that such a procedure would be very desirable. Just at this time precisely this type of work is being carried forward in certain laboratories abroad, but they have not the opportunity or facilities that may be possible in the work proposed in your letter. The investigation would be of scientific value whatever the outcome, and in every sense is a proper and legitimate subject for research.

Very truly, FRANK P. UNDERHILL.

THE OTHO S. A. SPRAGUE MEMORIAL INSTITUTE,
Chicago, March 22, 1912.

Dr. HARRY M. HALLOCK,
Hot Springs Reservation, Hot Springs, Ark.

MY DEAR DR. HALLOCK: From what I can learn in the communications you have just sent me concerning the waters of the hot springs, it would seem most desirable that thorough investigation on the physiological action of the springs, both upon man and animals, be made under Government auspices, so that we may have unprejudiced and reliable information upon which to base future therapeutic use of the springs. It is my opinion, in reply to your direct question, that the subject is most decidedly a legitimate and proper subject for scientific research not only from the standpoint of clinical medicine, but also from that of physiology.

Yours, very truly, H. GIDEON WELLS, *Director.*

CORNELL UNIVERSITY,
DEPARTMENT OF CHEMISTRY,
Ithaca, N. Y., March 19, 1912.

Dr. HARRY M. HALLOCK,
Medical Director, Hot Springs, Ark.

DEAR SIR: Your circular letter of March 16 came yesterday, and I have read it with great interest and care. Prof. J. K. Haywood, of the Bureau of Chemistry, who made the chemical analysis of the water of the hot springs, is a graduate of the chemical department of this university and a personal friend of the writer. I also know the other chemists you mention in your letter, and feel sure that their reports and conclusions are reliable and valuable. Something more is required, however, than a mere chemical analysis, and I think the arrangement contemplated by the Secretary of the Interior to secure the services of a competent physiological chemist to work in conjunction with a commission of medical men an excellent one.

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It seems to me that the results of such an investigation would be of great value, and I am of the opinion that the work contemplated is a legitimate and proper one for scientific research from the standpoint of clinical medicine.

I would suggest that an attempt be made to get the Carnegie Institution and the Rockefeller Foundation for Medical Research interested in the matter. Dr. Benedict, of the Carnegie Institution, has been investigating problems connected with metabolism and knows more about this subject than any other man in this country. Dr. Benedict is now in Boston, Mass., and I feel sure he would be much interested in such an investigation as you contemplate.

The Rockefeller Foundation has a very able corps of experts whose aid would be absolutely invaluable in such investigation. I have mentioned these institutions because any results published by them would command attention and be at once accepted by the medical profession. I suppose you are familiar with the work Dr. Benedict has been doing with the calorimeter, and I need not emphasize the importance of this kind of work in connection with the present investigation of the therapeutic value of these waters.

Yours, very truly,

W. R. ORNDORFF,
Professor of Organic and Physiological Chemistry.

AMERICAN CLIMATOLOGICAL ASSOCIATION,
March 21, 1912.

Dr. HARRY M. HALLOCK,
Medical Director.

MY DEAR SIR: I beg to acknowledge your very kind letter of the 18th instant, and also your very interesting report for 1911 to the Secretary of the Interior, with other inclosures.

I will reply later on to the subject referred to in your letter and as it is quite complicated I should give it consideration and see if some plan can not be outlined to afford a practical plan of investigation.

Very truly, GUY HINSDALE.

CARNEGIE INSTITUTION OF WASHINGTON,
NUTRITION LABORATORY,
Fenway, Boston, Mass., March 21, 1912.

Dr. HARRY M. HALLOCK,
Medical Director, Hot Springs, Ark.

DEAR SIR: I have your circular letter of March 16 with regard to investigations of the therapeutic value of the water of the hot springs of Arkansas, and I have glanced through the literature that you have sent along with this letter. There is no difficulty in determining definitely by physiological tests the action of water, provided it has any. There is a great question in the minds of experimenters as to the influence of radium emanation on metabolism, and I must confess I feel very skeptical with regard to many of the experiment reports in the literature you sent me; inasmuch as the main claim to benefit from the hot springs water is their radioactivity upon metabolism.

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This could only be done by persons trained in metabolic studies, particularly studying the gaseous exchange, so as to make some estimation of the actual amount of metabolic activity. Unless such a series of experiments be made, I should look very much askance at any studies undertaken. If the United States Government wishes to send to the laboratory an accredited scientist to learn the technique of making these studies, I shall be very glad to accord him what facilities we can; other than that, we are not in a position to do anything.

I am, very truly, yours, FRANCIS G. BENEDICT.

BALTIMORE, *March 22, 1912.*

Dr. HARRY M. HALLOCK,
Hot Springs Reservation, Hot Springs, Ark.

DEAR SIR: In reply to your letter of March 18, I would state that I believe it would be an investigation of great value to have a study made of the action of the hot springs water, not only its effects on the body in health but also in diseased conditions and its effects upon metabolism.

I believe that in order to be of any value such an investigation would have to be undertaken by a number of well-trained men, and that it would have to extend over a considerable period of time, and that an important part of the work would be to investigate the effect of the water in reference to any deleterious changes that it might cause. It seems that in certain diseases the water does harm rather than good.

I have no special suggestions at this time to make regarding the scope of such an investigation, but certainly urge that it be undertaken with the view of placing these curative waters on a scientific basis, where they certainly deserve to be.

Very sincerely, yours, JOHN RUHRAH.

TULANE UNIVERSITY OF LOUISIANA,
New Orleans, March 25, 1912.

Dr. HARRY M. HALLOCK,
Medical Director, Hot Springs Reservation,
Hot Springs, Ark.

DEAR DOCTOR: I am glad to reply to your communication of March 18, but must necessarily do so in a very general way.

I have always deplored the popular estimate of hot springs in their relation to syphilis, and have considered that more harm has been done to the victims of this disease through hot springs than through any other agent in modern times. The belief of the general public in the efficacy of the water of hot springs has created the impression that one or two "courses" there was all that was needed for a cure, and you know the results.

I believe that the thorough investigation of hot springs in its relation to syphilis is not only desirable but imperative for the good of the American people and for the education of the rank and file of the profession.

It should be especially demonstrated that hot springs have advantages over ordinary hot baths or other thermal resorts, if such be

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the case, and I shall welcome the results of the efforts of the Government in this direction.

It will require some time to obtain the proper results, and these should be derived from systematic experiments with groups of cases not only of syphilis but of skin diseases and of those other ailments (like rheumatism, gout, etc.) which are now in the habit of being treated at the springs.

If I can be of any other service at any other time I shall be glad to serve you.

Very truly, yours, J. RADOVET DYER, *Dean.*

BOSTON, *March 23, 1912.*

Dr. HARRY M. HALLOCK,
Hot Springs, Ark.

MY DEAR SIR: I acknowledge with thanks the receipt of your favor of March 18. In reply to your question, I would give it as my opinion that the thorough investigation into the effects of the waters from the hot springs would certainly be a legitimate and proper subject for scientific research from the standpoint of clinical medicine. It seems to me very desirable to determine what effects these radioactive waters have on healthy animals and healthy human beings. It might be desirable also to determine whether or not these effects differ from those obtained by the use of ordinary waters at the same temperature as that from the springs itself. The medical world and humanity would be the richer for the possession of this knowledge.

Very truly, yours, J. P. SUTHERLAND.

NEW YORK CITY, *March 29, 1912.*

Dr. HARRY M. HALLOCK,
Hot Springs Reservation, Hot Springs, Ark.

DEAR SIR: Your letter of 16th instant at hand. In answer to your question I am of the opinion that a carefully conducted investigation into the various effects of radioactive waters upon metabolism would be of scientific value. But such a research would not be at all a simple one, and, in my opinion, the ordinary type of observation conducted on patients under treatment is devoid of scientific value. Only such studies as utilize the most perfect methods are worthy of consideration. These should be in the first place physiological, and then with these results as a basis some deduction might be made regarding pathological conditions. I should be interested in seeing such work done, but it is by no means certain that any practical result could be arrived at.

Yours, truly, N. B. FOSTER.

BROOKLYN INSTITUTE OF ARTS AND SCIENCES,
Brooklyn Botanic Garden, March 27, 1912.

Dr. HARRY M. HALLOCK,
Hot Springs Reservation, Hot Springs, Ark.

MY DEAR SIR: Your letter of March 16, addressed to me at the University of Missouri, has been forwarded to me at my address as given above.

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I am very much interested in the proposition to make a thorough investigation of the physiological and therapeutic properties of the waters of the hot springs. It seems to me that it is a very desirable thing to do, not only because of its scientific interest, but also because it may be the means either of protecting the public against worthless expenditure of money for treatment of no value, or be of positive benefit in demonstrating the real efficacy of the hot springs baths for certain ailments or merely as a tonic.

I should think the subject was one entirely legitimate and proper for scientific research, to be undertaken under Government auspices. In fact, it seems to me that it is unfortunate that such an investigation has been so long delayed, in view of the fact that so many people have been led to look for relief and have spent considerable sums of money in that direction at the hot springs.

I believe the investigating staff should include a physiological chemist, a physical chemist, and a practicing physician, and the data gotten together ought to include information with reference to the history of past treatments, with their success or failure for different diseases, not only at these springs, but also by comparison with similar springs abroad.

Undoubtedly, if a competent force of investigators was appointed, the details of the investigation could very properly and advantageously be left to them.

I should be very much interested to know what further steps are taken in this matter, and if I can in any way render any service in this connection I shall be more than glad to do so.

Thanking you for the courtesy of addressing me on the subject, I am,

Yours, very sincerely, C. STUART GAGER.

ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH,
New York, April 2, 1912.

Dr. HARRY M. HALLOCK,
Hot Springs, Ark.

DEAR SIR: Your favor of the 16th was received, and, with the accompanying paper, read with interest. The striking physiological properties of the hot springs assuredly deserve a thorough investigation. For that I can suggest nothing better than the assignment of a properly equipped physiological chemist from the Department of Agriculture or the Public Health and Marine-Hospital Service to remain on the work until it has been completed to a satisfactory degree.

Yours, very truly, DONALD A. VAN SLYKE.

CHICAGO, *March 27, 1912.*

Dr. HARRY M. HALLOCK,
Medical Director, Hot Springs Reservation, Ark.

DEAR DOCTOR: I would say in reply to your inquiry that I am heartily in sympathy with the proposed investigation, under the auspices of the United States Government, of the physiologic effects of the waters of the hot springs of Arkansas. Am convinced that

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our national resources, climatic as well as balneologic, do not receive the attention and the study that they deserve.

Investigation conducted by persons commercially interested in a health resort are hardly likely to be of great scientific value, as personal bias can not be eliminated even by good intentions. Such investigations should be conducted by the Government, and the results, good or bad, published for the benefit of the people.

Thanking you for the opportunity to express my opinion in this matter, I am,

Yours, very truly, BERNARD FANTUS, M. D.

WINNIPEG GENERAL HOSPITAL,
Winnipeg, March 25, 1912.

Dr. HARRY M. HALLOCK,
Medical Director, Hot Springs Reservation,
Hot Springs, Ark.

DEAR DOCTOR: In reply to yours of March 16, I am much gratified that the effort is at last being made to put America's best-known spa on a scientific basis, as the taint of the Diamond Joe régime has probably been the greatest drawback the hot springs have ever had, and they have not been permitted to do the good of which they are capable. It would be of great value to the profession of the country if they could have a definite and reliable statement of the actual therapeutic value of the springs. While we know, of course, that the bulk of the good results of the foreign springs rests on a more or less scientific basis, the present day developments of radiotherapy indicate that if these springs are really endowed with radioactivity they may become of great value.

As to the method of investigation. Your letter suggests a physiological chemical investigation. I assume that this term is used in its broad application to include pharmacology and experimental therapeutics, as it is with mineral waters particularly that physiological chemistry, or any chemistry alone, is extremely liable to lead us astray, the only thing of any great reliability being actual animal experimentation, followed by definite experimental therapy, for which I suppose the hospital would furnish sufficient material, after the animal experiments had suggested promising lines of procedure.

If I can at any time be of service, I will be pleased to do so, not the least for the reason that while I am now under the British flag, I still hold my commission in the M. R. C.

Yours, respectfully,

W. P. MORRILL, M. D., *Superintendent.*

MADISON, WIS., *March 19, 1912.*

Dr. HARRY M. HALLOCK,
Medical Director, Hot Springs Reservation,
Hot Springs, Ark.

DEAR SIR: Yours of the 16th instant at hand. I would state to begin with that I am hardly qualified to answer authoritatively the questions asked. Reports of the work done abroad in determining

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the effects upon metabolism of radioactive baths and drinking waters does not seem to offer great encouragement in this field. A number of such investigations have been carried on, the reports of which have been published in the Zeitschrift for Experimentelle Pathologie Und Therapie during the last few years. Very little, if anything, tangible has been found to indicate any deep-seated or definite effect upon metabolism. My own impression, therefore, is that much time might be wasted in such investigation. On the other hand I should hesitate to express a positive opinion which might in the slightest degree discourage research along any line. This line seems so much less promising than many others in the field of preventative and curative medicine that I should personally prefer to see the Government appropriate money for more valuable lines of investigation. * * *

I believe it is generally conceded that the cures effected by the well-known spas of Europe are to be attributed to the out-of-door life enjoined on the patients, to the regular regimen of diet and sleep and exercise; to the simple, nutritious food provided, rather than to any inherent property of the waters themselves. It is possible, however, that these radioactive waters may prove beneficial in certain types of skin diseases.

Very truly, yours, H. C. BRADLEY.

NOTE.—Harold C. Bradley, assistant professor of physiological chemistry, department of physiology, University of Wisconsin.

UNITED STATES DEPARTMENT OF AGRICULTURE,
OFFICE OF EXPERIMENT STATIONS,
Washington, D. C., March 27, 1912.

Dr. HARRY M. HALLOCK,
Medical Director, Hot Springs Reservation,
Hot Springs, Ark.

DEAR SIR: Your letter of March 16 was received, together with the additional data regarding the Arkansas hot springs. I am much interested in the subject and in the plans for future development. Without doubt biochemical studies of the effects of the waters would prove valuable.

In my judgment, it is also important to study the effect of food conditions in combination with the waters. A number of years ago, an attempt was made in connection with the nutrition investigations of this office to compile experiments with men and animals in which the balance of income and outgo was determined usually in terms of nitrogen. As the work progressed it became evident that a very large number of studies had been made in which the effects of mineral waters and baths of different sorts and similar factors had been studied.

A considerable number of the articles abstracted were published in Russian, and others in French and German. Many additional reports have appeared since our bulletin was published, and it may safely be said that the total amount of literature existing on this subject is fairly large. In my opinion, this material might be very profitably collected and digested as a preliminary to and in conjunction with other studies, the Arkansas springs.

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It might be possible to arrange for cooperation between your bureau and the Office of Experiment Stations, for such a project, should you think favorably of it.

Trusting that it will prove of interest to you, the Division of Publications has been asked to mail you under separate cover a copy of Bulletin 45, of the Office of Experiment Stations, Dietary Studies in New York City in 1895 and 1896, which contains a summary of the data referred to above, and also a number of our general publications on food and nutrition topics.

Very truly, yours, C. F. LANGWORTHY,
Chief of Nutrition Investigations.

NEW YORK, *March 23, 1912.*

DR. H. M. HALLOCK, *Medical Director.*

DEAR DOCTOR: Your letter of the 15th instant has given me great satisfaction in that it is in line with efforts I have been making for a long time to study the scientific and practical aspects of our abundant and numerous mineral waters. The latter, having been so long exploited by commercial enterprise, have fallen into desuetude because physicians have not observed the therapeutic results they had reason to expect from the too often false representations of advertisers and promoters. Moreover, medical men at some of these springs, being in the employ of or at least dependent for patronage upon the proprietors of the springs, have not been as frank as was their real desire, in dissuading persons whose cases were not adapted to the waters of their particular resort from remaining. This is one reason for my hearty approval of the scientific investigation of the waters of Hot Springs and their clinical application under unbiased and skilled supervision. This may seem a singular reason, but I am convinced that if the definite and reliable results that will surely accrue from the investigation you propose will stimulate other spring owners to follow your example, and the result will be the same splendid one which has been achieved by the demonstrations of the Department of Agriculture to our farmers. Every good health resort will emulate your example, and there will ensue a renaissance in physical therapeutics which I have been in vain endeavoring to initiate. So far my result has been mainly to convince intelligent physicians that there is a physiological action of water which has not been sufficiently studied and that water may be applied therapeutically with success only upon the same physiological basis as digitalis or strychnia or other medicinal agents. Prior to the discovery of the effect of radioactivity in mineral waters, I have based all hydrotherapeutic action on the thermis, mechanical, and (feeble) chemical excitation of the cutaneous nerve and vascular supply when used externally. In my article on "Mineral springs," in the first edition of "Hare's System of Practical Therapeutics," I stated that "it is more important for the physician who sends a patient to the springs to know the mental composition of the doctor than the chemical composition of the water." Little confidence have I had in the latter. If radioactivity may be added to the feeble and often inert chemical constituents which are the boast of most of the springs, their therapeutic

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value will surely be vastly enhanced. I heartily indorse the plan contemplated by the Secretary of the Interior of securing the services of a competent physiological chemist to work in conjunction with a commission of medical men.

I am convinced that there "is a reasonable probability that a series of biochemical investigations on animals and human beings, both the sick and the well, would yield results that would be of value to the medical profession, and through them to suffering humanity." The whole subject is of great promise from a clinical standpoint. Not having received the inclosures you refer to, I am not prepared to give you suggestions. I need not say that you will need physicians who have more than an academic acquaintance with hydrotherapy. Indeed, I discussed the subject of your letter two summers ago with Surg. Gen. Torney, at his office in Washington, and recommended this investigation, advising that he send one of the Hot Springs staff to my clinic for observations on hydrotherapy.

Very truly, yours, S. BARUCH.

The following is an extract taken from booklet entitled, "The Success of Physical Remedies in Pulmonary Phthisis as an Index of Their Value in Other Chronic Diseases," by Simon Baruch, M. D., of New York:

[Reprint from the Medical Record, Aug. 13, 1904.]

The celebrated health resorts of Germany, which attract a multitude of people, more or less afflicted with chronic diseases, do not owe their well-earned reputation so much to the climate and chemical composition of the waters or other local conditions as is generally supposed. These useful therapeutic elements would be absolutely inefficient if their application were not directed by the medical men residing in these resorts, who have made it a life study to investigate the climatic and balneological advantages of their respective springs, and have convinced their confrères in all parts of the world, by conscientious striving for the welfare of the patients committed to their care and by the intelligent application of their respective local advantages, and by close attention to and guarding of the sanitary arrangements of the springs. It is really more important for the physician who sends his patient to health resorts or springs to know the mental composition of the doctor than to know the barometric characteristics of the climate or the chemical composition of the waters. As an example, let me cite the recent marvelous growth of Nauheim as a resort for cardiac cases, which is due to the studies of Dr. Theodore Schott and his conscientious selection of cases adapted for the Nauheim waters. By scorning mercenary methods, unfortunately prevalent at many resorts, he has builded better than he knew, for the town of Nauheim has since his death become the Mecca of patients from all parts of the world. It will retain its well-earned reputation so long as its physicians will utilize it judiciously, select the patients with care and firmly decline to retain cases not adapted, though the material interests of the resort may seem to suffer.

[New York Sun, Mar. 26, 1912.]

HOT SPRINGS RESERVATION.

By Dr. S. Baruch, professor of hydrotherapy, University of Columbia.

The enormous annual exodus to Europe of people suffering from ailments of various kinds, and especially from rheumatism and gout, involves so large an expenditure of money, time, and comfort that it becomes a matter of public interest to ascertain if these can not be avoided or at least diminished to a great extent. The fact that our own country possesses mineral springs the water of which is second to none in efficacy for healing to those of Europe has often been pointed out by some of our physicians who are specially interested in this branch of medicine. No serious effort has, however, been made to demonstrate scientifically the curative value of

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these waters. The result has been that the numerous health resorts of this country from Maine to California have lacked proper utilization except for commercial purposes, a method of exploitation which has damaged their repute and inclined medical men to avoid them in their practical application of mineral springs by reason of fantastic analyses, and the most extravagant claims of curative properties made by the owners.

An awakening has come, however, manifested in the action of the New York Legislature, which has acquired the Saratoga Springs as a State reservation, impelled thereto by the systematic robbing of the precious gases contained in the Saratoga spring waters by manufacturers or distributors of carbonic-acid gas. It became quite obvious that if this course continued these waters would become practically inert for medicinal purposes. This act of the legislature was the first step in the recognition by the State of the immense value and importance of mineral springs to the welfare of the people. The development of this State reservation has been exceedingly slow and halting, probably from lack of appropriations. The commission appointed by the governor has not yet been successful in developing Saratoga as a health resort; it is to be hoped that ere long Saratoga may become as famous among physicians for the health-giving properties of its waters as it was in its golden prime for its cuisines, its fine hotels, and good sports to the seekers after pleasure.

Perhaps the action now being taken by the United States Government in developing the Hot Springs Reservation as a scientific health resort may stir up the Saratoga commission to emulate its example. For many years the hot springs of Arkansas have been famous for the treatment of rheumatism, gout, and other blood diseases. One hundred thousand visitors annually attest the efficacy of these waters. In order, however, to obtain the full benefit for the largest number, and to save many the trouble and expense of journeying to these springs without prospect of advantage, the Government has wisely determined to institute certain scientific experiments to ascertain definitely their true curative properties. A medical director has been assigned to supervise the baths and the administration of the reservation. Under the direction of Surg. H. M. Hallock, of the Army Medical Department, analyses have been made by the agricultural and geological departments, and a recent investigation has led to the discovery of what is called by physicians "radioactivity" of positive type. This does not mean that radium exists in the water of the hot springs, but "radium emanation," a gas dissolved in the water, which is regarded by medical men of great value in certain diseases, has been found which affords a more mild though effective action. This discovery is of marked importance; it places the hot springs of Arkansas on equality with, if it does not render them superior, to most of the renowned springs of Europe which claim radioactivity for their waters.

That further observations on this subject, together with the practical application of the waters in disease, will be absolutely reliable and entirely free from commercial bias is guaranteed by the type of men under whose direction they will be executed. It is to be hoped that the Congress may grant any appropriation that may be called for to further the thorough investigations, scientific and practical, which are proposed. The outcome of the latter can not be overestimated. It will not only be of immediate value to the large number of sufferers who flock to these springs, but, what is more important, the systematic and scientific application of this mineral water will demonstrate to owners of other springs and to physicians that the European methods of administration are worthy of imitation, especially when they will be improved by the infusion of the true American spirit of utility to the largest numbers. The development of this long-neglected field may inure to the lasting benefit of our people.

THE STATE UNIVERSITY OF IOWA,
DEPARTMENT OF CHEMISTRY,
Iowa City, March 18, 1912.

HARRY M. HALLOCK, M. D.,
Medical Director, Hot Springs, Ark.

MY DEAR SIR: I have your letter of March 16 asking my opinion as to the desirability of an experimental study of the effects of the hot springs water upon animals and human beings.

I regard it of the greatest importance to have such problems taken up if they can be properly studied. Tradition is the chief evidence

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that we have as a rule, and when some attempt has been made to investigate such questions it is too frequently not completed. As a requisite for conclusive results I think the subjects should be under control as to their diet, hours, etc. Lacking this I do not think very definite results can be obtained. I believe the matter should be taken up from both the clinical and physiological sides. From the latter I should like to see a thorough investigation made of the effects of the water upon metabolism, such as possible modification of amounts of excreted materials, urea, uric acid, ammonia, creatinin, total nitrogen, compounds of sulphur, phosphorus, etc.

I hope that you may be successful in being able to take up the work.

Yours, very truly,

E. W. ROCKWOOD.

DEPARTMENT OF THE INTERIOR,
HOT SPRINGS RESERVATION,
OFFICE OF MEDICAL DIRECTOR,
Hot Springs, Ark., March 25, 1912.

Prof. ELBERT W. ROCKWOOD,
Department of Chemistry, State University of Iowa,
Iowa City, Iowa.

DEAR PROF. ROCKWOOD: I beg to acknowledge your letter of March 18, 1912, and to express herewith my appreciation of the consideration you have given to my inquiries.

All of the correspondence with reference to the proposed investigation will be forwarded to the Secretary of the Interior in due time and I am sure that the officials of the department in Washington will appreciate your courtesy as much as I do.

Very respectfully,

HARRY M. HALLOCK,
Medical Director.

CHICAGO, *March 20, 1912.*

HARRY M. HALLOCK,
Medical Director, Hot Springs Reservation,
Hot Springs, Ark.

SIR: I have your letter of March 16, 1912, containing a statement of the governmental control of Hot Springs Reservation and also your report to the Secretary of the Interior for 1911 and a copy of the publications on the hot springs of Arkansas.

I think that further investigations, biochemical and clinical, should be made of the waters of Hot Springs, Ark. In my opinion the subject is a legitimate one and a proper one for scientific research for the purpose of making more practical the uses of the waters for patients.

I wish that it were possible for the Government to more fully control the uses of the waters by patients. If it were possible for the Government to cut out all outsiders and to conduct the bathing pavilions under complete governmental control, I believe it would remove many of the objections which now exist there.

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I appreciate very much what the Government has already done through the officials to remove and correct as far as possible the former abuses which came through private interests of all kinds.

Very truly, yours,

FRANK BILLINGS.

NOTE.—Frank Billings, dean Northwestern University Medical School; professor of practice of medicine, Rush Medical College; professor of medicine, University of Chicago.

CHICAGO, *March 19, 1912.*

Mr. HARRY M. HALLOCK,
Medical Director, Hot Springs, Ark.

MY DEAR SIR: I strongly urge that tests be made to determine the chemical, thermal, and radioactive variations of the waters of Hot Springs, Ark., for this is knowledge which the medical profession needs. More than that, I urge that a physiologist of experience be given facilities for determining the effects produced by the spring water when taken internally and when used for bathing. Unless the profession has this knowledge, the water can not be used in a scientific way. Something is known of its usefulness, but it is prescribed empirically not because it is known why it should be used.

I hope the United States Government will make these investigations. Not only will they be valuable for the development of the usefulness of this spring, but doubtless much will be learned which will be useful in applying other spring waters.

Very respectfully, yours, N. S. DAVIS.

NOTE.—Nathan S. Davis, A. M., M. D., professor of principles and practice of medicine, Northwestern University, Chicago, Ill.; ex-president Chicago Medico-Legal Society; member American Medical and American Climatological Associations, etc.

ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH,
New York, March 27, 1912.

Dr. HARRY M. HALLOCK,
Medical Director, Hot Springs Reservation,
Hot Springs, Ark.

DEAR SIR: Your letter of March 16, with the printed matter, was forwarded to me. I should be glad to be of assistance to you, but I know so little about the effects of springs on health that I am not in a position to make a definite statement or recommendation.

Thanking you for your note, I remain,

Yours, very truly, JAMES LEE.

ALBANY, N. Y., *March 25, 1912.*

HARRY M. HALLOCK, M. D.,
Washington, D. C.

MY DEAR DOCTOR: Your letter and reports concerning hot springs of Arkansas were duly received, and, while I do not claim to have any very expert knowledge of such matters, it seems to me that there can be little doubt that such an investigation as you propose would be of the greatest value in determining in what class of cases they could

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be resorted to with advantage. As in many other cases it is not possible to tell beforehand in precisely what way they may turn out to be of the greatest use.

Very truly, yours, SAML. B. WARD.

CORNELL UNIVERSITY MEDICAL COLLEGE,
New York, March 20, 1912.

Dr. HARRY M. HALLOCK,
Medical Director, Hot Springs, Ark.

DEAR SIR: Replying to your note of March 16 regarding the possible value of careful investigations with regard to the value of the baths of Hot Springs, Ark., I would say that I heartily approve of the idea. Of course the value of such work would depend upon the training of the head chemist who had the matter in charge. There is so much that is published nowadays which is not properly controlled that it would be a great misfortune unless the work were conducted by a man whose knowledge of the problems to be attacked was of the most thorough and fundamental order. The recent work in Germany with regard to the value of radium emanations upon the destruction of uric acid in the body is of great suggestiveness, and it would be well if similar work could be done in this conutry, if placed in the hands of competent observers.

Very truly, yours, GRAHAM LUSK.

NOTE.—Graham Lusk, Ph. D., Sc. D., F. R. S. (Edin.), professor of physiology, Cornell University Medical College.

AMERICAN MEDICAL ASSOCIATION,
COUNCIL ON PHARMACY AND CHEMISTRY,
Cleveland, Ohio, March 25, 1912.

Dr. H. M. HALLOCK.

DEAR SIR: I have perused your letter to the council and to me, and also the printed matter, with interest. It appears to me that an investigation by a physiological chemist, working in conjunction with a medical commission, holds forth promise of considerable usefulness. This investigation might bear on the following problems: Effect on temperature; effect on metabolin; effect on excretion of water, salts, metabolites, and drugs (Hg. iodid, plumbism, etc.); effect on circulation; effect on blood.

These observations will be made on healthy and diseased subjects. Comparative experiments should be made with the hot and cooled waters, also with ordinary hot water, and with the springs and plain water taken internally.

If some such program is submitted to the prominent laboratories where biochemical researches are in progress, it might facilitate the obtaining of the properly qualified investigator.

Very truly, yours,

TORALD SOLLMANN.

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BUREAU OF ANIMAL INDUSTRY,
Washington, D. C., April 1, 1912.

Director HARRY M. HALLOCK,
Hot Springs, Ark.

DEAR SIR: I have your circular dated March 16. In reply to your question "Is a biochemical investigation * * * of the waters * * * a legitimate and proper one for scientific research from the standpoint of clinical medicine?" I beg to answer, in spite of my limited knowledge of the physiological effects of radium and its products, yes; provided, however, that those who are in charge of the investigations realize that the most skillful physiological chemist working for a few years probably will not get results that will appeal strongly to anyone except scientists interested in just that line. I mean that I doubt whether practical results can justly be expected from one man working a few years. I believe that before results of a direct clinical value are obtained many men will have worked for many years.

If a biological chemist were engaged in research at the hot springs, a very grave injustice might be done to him if he were regarded as incompetent because "practical results" were not forthcoming. I believe that the work should certainly be done—the more biochemists, the better—but let there be no expectation of anything definite for about 10 years. This is not too long. I used radium bromid (and barium bromid) in some metabolism experiments on dogs, and one of the results was to point out the endless labor and difficulty involved in working out the physiological and pharmacological action of a substance like radium or its allied products.

Permit me to emphasize the desirability of the work and the length of time it will probably take to arrive at results that are of "practical value."

Respectfully, WILLIAM W. BERG.

APRIL 2, 1912.

Dr. HARRY M. HALLOCK,

MY DEAR DOCTOR: I most heartily indorse the efforts you are making to have tested the therapeutic value of the waters on the reservation. There seems every reason for believing that these waters will prove as beneficial, if not more so, than those in European countries.

If I can aid you in securing the necessary appropriation by speaking to a few Members of Congress I will cheerfully undertake the task.

Very truly,

SAMUEL S. ADAMS,
Georgetown University.

NOTE.—Samuel S. Adams, A. M., M. D., professor of theory and practice of medicine and diseases of children, Georgetown University.

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UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF PLANT INDUSTRY,
Washington, D. C., March 20, 1912.

Dr. HARRY M. HALLOCK,
Hot Springs, Ark.

DEAR SIR: I beg to acknowledge the receipt of your letter of March 16, together with the inclosures. I will give the matter my very best consideration and will communicate with you again as soon as I have opportunity to read the literature you sent me and to consider the whole question. I hope that you can give me a few days in which to turn the matter over in my mind. It is certainly of such importance as to warrant earnest thought. Moreover, while I am familiar with the literature of radioactivity in a general way, I wish to refresh my memory by reading again some of the recent work on the subject. In that way I hope I will be able to give you an opinion that will be worth more than if I should reply to your question at once. If, however, it is necessary for me to reply at once please do not hesitate to say so and I will do what I can under the circumstances. You will then hear from me again in the course of some days.

Very truly, yours,

CARL L. ALSBERG,
Chemical Biologist.

CHICAGO, *April 6, 1912.*

Dr. H. M. HALLOCK,
Hot Springs, Ark.

MY DEAR DR. HALLOCK: In answer to your circular letter of March 15 regarding the scientific investigation of natural mineral waters, I would say that such investigations under Government supervision would undoubtedly be of enormous value to the people of this country, and that the value would gain in importance by having the work conducted jointly by the Government and a committee of the American Medical Association, because this would insure the transmission of such results directly to the entire medical profession and through them to the public.

Yours, very sincerely,

A. J. OCHSNER,
Professor Clinical Surgery of the Medical Department of the University of Illinois.

NEW YORK, *April 4, 1912.*

HARRY M. HALLOCK, M. D.,
Medical Director, Hot Springs Reservation,
Hot Springs, Ark.

DEAR DOCTOR: Please accept my thanks and appreciation of your letter of March 14 and my apologies for the delay in answering the same.

I have been greatly interested to hear of the plan of instituting investigations of the physiological effects of the waters of hot springs. It is not so very long that attention has been directed to the radioactive qualities of European mineral springs, and the study of the

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subject is far from completed. Therefore there seems to be no doubt that biochemical investigation, conducted by competent observers, of the action of the waters of hot springs upon animals and upon human beings, both the sick and the well, at the springs, would result in the production of valuable scientific information beneficial to the medical profession in general and indirectly to suffering humanity. Such investigations conducted by officers of the United States Government would command attention in this country as well as abroad, and would certainly be welcomed from the clinical standpoint.

American mineral springs have heretofore been woefully neglected by the medical profession as well as by the American people. Meeting the request of the committee on therapeutic research of the American Medical Association for an investigation of the radioactivity of the various mineral waters, the plan indicated in your letter would undoubtedly be welcomed and supported by the physicians of the entire country and largely contribute to a more general appreciation of our domestic watering places.

Under these circumstances it is to be hoped that Congress will make a sufficiently large appropriation for the purposes of such an investigation.

Very truly, yours, HERMAN G. KLOTZ, M. D.

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
Washington, D. C., April 11, 1912.

DR. H. M. HALLOCK,
Hot Springs Reservation, Hot Springs, Ark.

DEAR SIR: I have your letter of March 16 concerning the physiological effects of the water of Hot Springs, Ark.

I am interested in what you write and believe that if the matter can be arranged satisfactorily a thorough investigation of the physiological effects of the waters would be of value. I have shown your letter to Prof. R. B. Moore, recently of Butler College, Indianapolis, and now of this bureau, who has published some work on the radioactivity of waters of this country, and he informs me that he is quite well acquainted with the work you quote of Prof. B. B. Boltwood, and that the statement No. 3, "The tufa deposited by the springs does not contain appreciable traces of radium," is not correct. At the time that Prof. Boltwood did this work the methods of detecting small quantities of radium were not as far advanced as they are at the present time. Prof. Boltwood's work on the radioactivity of the waters is reliable, but more recent investigations of the tufa by Prof. Schlundt, of the University of Missouri, has disclosed the fact that some of the tufa is exceedingly active; in fact, in one case the sediment in a spring is one of the most radioactive in the whole world. Therefore, before drawing any conclusions regarding the therapeutic value of the waters, it might be advisable to have the investigation as regards the radioactivity still further extended.

Mr. Moore is now in the Government service in connection with the Bureau of Soils. I am sure he will be glad to give you any advice or suggestions that you may desire in connection with this matter or in connection with the resolution adopted by the medical associa-

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tion at Los Angeles that the Government take up the investigation of the radioactivity of the various mineral waters of the United States.

Yours, very truly,

OSWALD SCHREINER,
In Charge.

NEW YORK UNIVERSITY,
UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE,
New York City, April 17, 1912.

HARRY M. HALLOCK, M. D.,
Medical Director, Hot Springs Reservation,
Hot Springs, Ark.

DEAR SIR: Your circular letter addressed to me at the Albany Medical College was forwarded to me at my present address above.

I deem it extremely wise and would recommend by all means that an investigation as to the therapeutic value of the waters at the hot springs be made with scientific accuracy and under competent supervision.

The exploitation of so many spas where remedial waters are dispensed at high cost both for services and living has had its effect upon the profession as well as the laity, and it is therefore, above all things, highly necessary that you become able to present scientific proof of the functional efficacy of the spring water.

It would be impossible to give you an outline of a possible line of procedure, for that would entail months of study into the conditions of climate, composition of water, methods of ingestion, physiological effects, etc.

I can simply call your attention to the importance which has quite recently been emphasized from various standpoints of the equilibrium of salts which must exist and be held constant in the full-grown individual and the abnormalities of function which result from any disturbance of this equilibrium. Also the importance of certain salts, such as potassium compounds, for the proper growth of the young. All this is apart from the question of the therapeusis of radioactive substances. Any data which you may obtain in any of these fields will be of great value to the medical profession and would result in increased cooperation on their part.

Very truly,

HOLMES C. JACKSON.

P. S.—If you are actually anxious for details in any specific matter I shall be glad to supply them.

COLLEGE OF MEDICINE OF SYRACUSE UNIVERSITY,
Syracuse, N. Y., April 18, 1912.

Dr. HARRY M. HALLOCK,
Medical Director, Hot Springs Reservation,
Hot Springs, Ark.

DEAR SIR: Your letter of March 16, addressed to Dean Heffron, has been handed to me, with the request that I make a reply. I am in hearty sympathy with any attempt which leads to estimating the

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exact physiological effects of the water at Hot Springs. I believe that you are to be congratulated because of the fact that the Government is taking hold of this spa, and I consider it one of the duties of the Government to not only make the springs accessible to the people, but to so study them that the baths and water will be used only in a perfectly proper way.

Very truly, yours,

W. D. ALSEVER,
Professor of Therapeutics.

THE UNIVERSITY OF WISCONSIN,
DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY,
Madison, Wis., April 24, 1912.

Dr. HARRY M. HALLOCK,
Medical Director, Hot Springs, Ark.

DEAR SIR: Due to serious illness in my family and my absence from the city, I have been unable to answer your letter earlier. I think a thorough study of the physiological effects of the water of hot springs and a determination of its therapeutic value would be very desirable. I can not make any recommendations "As to the best method of procedure," because I do not understand what you mean by this phrase. Scientifically, the work should determine the effect of the water on metabolism in health and disease, and physiological investigations of various kinds should determine the effect in detail of the water on the circulation and respiration in health and disease.

Yours, very truly,

A. S. LOEVENHART.

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62D CONGRESS, 2d Session | HOUSE OF REPRESENTATIVES | DOCUMENT No. 906

THE ROAD HORSE

WITH SPECIAL APPLICATION TO HIS SELECTION AND MANAGEMENT IN THE RURAL DELIVERY SERVICE

BY

H. H. REESE

Animal Husbandman, Bureau of Animal Industry
United States Department of Agriculture

AUGUST 12, 1912.—Ordered to be printed

WASHINGTON
GOVERNMENT PRINTING OFFICE
1912

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IN THE HOUSE OF REPRESENTATIVES,
August 12, 1912.

Resolved, That there be printed as a House document ninety-three thousand copies of a pamphlet entitled "The Road Horse," as edited and prepared by the Bureau of Animal Industry of the Department of Agriculture, with special application to the selection and management of the road horse used in the Rural Delivery Service, of which fifty thousand copies shall be for the use of the House of Representatives and forty-three thousand copies for the use of the House document room.

Attest: SOUTH TRIMBLE,
Clerk.

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UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF ANIMAL INDUSTRY,
Washington, D. C., February 16, 1912.

Hon. P. V. DE GRAW,
Fourth Assistant Postmaster General,
Post Office Department, Washington, D. C.

DEAR SIR: I am sending you herewith manuscript entitled "The Road Horse," by Mr. H. H. Reese, of the Animal Husbandry Division of this bureau, together with illustrations.

This is for the use of your department in disseminating information concerning the selection and management of the road horse for rural carriers. I trust that you will find the material suitable for your use.

Very respectfully,

A. D. MELVIN,
Chief of Bureau.

Approved.
JAMES WILSON, *Secretary.*

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THE ROAD HORSE.

TYPE.

The general type of horse desirable for road work is one weighing from 900 to 1,150 pounds and standing from 15 to 16 hands.

AGE.

A road horse should not be given heavy driving until 5 years of age. The limit of his usefulness depends upon his individuality, care, and handling.

BREEDING.

The Standardbred has produced far more good road horses than any other breed, although desirable ones are found with other light blood predominating. Morgans are very useful roadsters, and good roadsters are frequently found which have Thoroughbred and saddle blood. Draft blood is not desirable.

DESCRIPTION.

The following diagrammatic outline gives a detailed description of a road horse:

General appearance.—Form symmetrical, smooth, stylish. Quality, hair and skin fine; bone clean, smooth. Temperament alert, free, steady, kind.

Head and neck.—Head small, neat, straight, flat between eyes. Muzzle fine; nostrils prominent; teeth sound. Eyes full, clear, prominent, mild. Forehead broad, full. Ears small, fine, well set. Neck muscled, graceful arch; throatlatch fine; windpine large.

Fore quarters.—Shoulders long, oblique; arms short. Forearms muscled, long, wide. Knees broad, prominent, strong, well supported. Cannons short; bone clean; tendons prominent, straight. Fetlocks wide, strong, straight. Pasterns strong, medium length, angle with ground 45°. Feet medium size, almost circular; hoof smooth, dark, fine texture; sole moderately concave; frog well developed, sound, large, elastic; heel wide and fairly high.

Body.—Withers prominent, not meaty, fairly narrow. Chest deep, broad. Ribs long, well sprung, close. Back medium length, well muscled, straight, broad. Loin, wide, short, thick. Underline long; flank narrow.

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Hind quarters.—Hips level, smooth, wide. Croup long, wide, muscular. Tail attached high, gracefully carried. Thighs long, muscular. Quarters heavily muscled, deep. Gaskin long, wide, muscular. Hocks clearly defined, wide, straight, strongly supported. Pasterns strong, sloping. Feet medium size, almost circular; hoof smooth, dark, fine texture; sole moderately concave; frog well developed, sound, large, elastic; heel wide and fairly high.

Action.—Walk elastic, quick. Trot rapid, straight, regular, well balanced.

UNSOUNDNESS.

The following are some of the most common forms of unsoundness in a road horse:

Splints.—Location, inside of cannon bone; sometimes outside as well. Formation, bony enlargements. Detection, pass hand over inside of cannon and feel for bony prominences; splints are usually easily seen. Result, possible lameness when forming, when causing pressure on a tendon, or when close to the knee joint.

Sidebones.—Location, back of foot just above hoof, most common on fore feet. Formation, ossified cartilage. Detection, place region between thumb and fingers and press; if healthy, it will yield; if sidebones are present, it will be rigid and hard; bad sidebones are readily visible to the eye. Result, frequently lameness.

Ringbones.—Location, all four limbs, front and sides of pastern bone, usually just above the hoof. Formation, bony enlargements. Detection, pass hand over pastern and feel for bony prominences; ringbones are also easily seen as a rule. Result, lameness, if it interferes with the action of the joint or tendons.

Curb.—Location, at back of hock below point. Formation, thickened tendon, ossified in long-standing cases. Detection, stand at side of hock and notice a fullness just below point of hock on back edge. Result, often lameness when first developing.

Bone spavin.—Location, inside of hock where thick bony part tapers into cannon. Formation, bony enlargements. Detection, compare the two limbs from squarely in front or behind, pick up suspected limb for a minute, and start animal on a trot as soon as limb reaches ground; horse will limp if bone spavin is present. Result, lameness, especially when horse is first led out.

Bog spavin.—Location, natural depression on inner and front part of hock. Formation, collection of synovia. Detection, compare two limbs from obliquely in front; soft to touch. Result, sometimes causes lameness.

Blood spavin.—Location, same as bog spavin. Formation, enlarged vein causing abnormal amount of blood. Detection, same as for bog spavin. Result, usually considered unsoundness, although does not often cause lameness.

Thoroughpin.—Location, depressions which lie just below the tendon which runs from point of hock into gaskin. Formation, collection of synovia. Detection, press on swelling and notice corresponding filling on opposite side of hock; compare the two limbs for differences. Result, rarely causes lameness.

Roaring; heaves.—Cause, in former, paralysis of the nerve supplying the larynx, which results in the loss of control of a muscle at this point,

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thereby interfering with the passage of air. In latter case, animal has difficulty in forcing air out of lungs, due to paralysis of related parts, often associated with eating dusty or unwholesome roughage. Detection, in both cases there is a wheezing sound in breathing when animal is vigorously exercised. Coughing will likely follow drinking or cutting off wind at throat with hand. In heaves, peculiar movement in the flanks and abdomen, especially after exertion, can usually be seen.

Blindness.—Detection, have eyes toward good light and look for bluish or hazy appearance; move hand slowly before them and note manner of batting eyelids; lead animal over obstacles and note manner of lifting feet. Have animal in darkened stable; hold lighted candle before eye; three images should appear; the first large, upright, and moving in the same direction the candle moves; the second small, upright, and moving with the first; and the third inverted and moving in an opposite direction from the other two. Result, animal very annoying to drive, shies frequently, stumbles easily, and is hard to keep in road.

FEEDS.

Grain.—Oats is the standard grain feed for light horses. Corn is quite commonly fed. It should form a part of the ration, especially in the winter. In England it is claimed hunting horses fed beans and peas can be recognized by their increased endurance. Barley is fed crushed in some sections of the country with very good results. Rye and wheat are generally in such demand for other purposes that it is hardly worth while to consider them as a horse feed.

Commercial by-products.—Bran has a corrective effect on a horse's digestive apparatus and is useful to feed preceding or on idle days, especially mixed with warm water as a mash. Shorts, or middlings, when fed with bran has practically the same feeding value as oats. Linseed meal is slightly laxative. It is very concentrated and should not be fed in greater amounts than 2 pounds per day. Alfalfa meal, which is ground alfalfa hay, makes a good supplement to the grain ration, especially where alfalfa hay can not be secured. Gluten feed and gluten meal are by-products from the manufacture of starch from corn, and brewer's grains are by-products from breweries. Molasses, a by-product from the manufacture of sugar from sugar cane, is relished by horses. It is slightly constipating, but may be fed in any quanity up to 10 pounds a day. It produces a sleek coat and in trials has often increased weight. Any of the above feeds can be used in a ration to supplement oats. They lend variety, lessen cost, and it is possible to have the ration balanced by their use.

Roughage.—Timothy hay has long been considered the standard roughage for driving horses in this country. Alfalfa hay is coming to be recognized as a good feed for driving horses, when properly cured. Clover hay should not form a large percentage of the roughage for a road horse. Good oat straw or corn stover can form one-half of the roughage part if fed with good hay. Cowpea and soy-bean hays are useful in this connection.

Succulence.—Grass, carrots, rutabagas, sugar beets, silage, etc., can well be fed in limited amounts to produce a laxative and cooling effect on the digestive apparatus.

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FEEDING.

Quantity, kind, etc.—Since roads and work are not uniform, it is necessary to adjust the driving horse's ration to the work done, allowing, of course, for recuperation. A popular standard for maintaining horses is to allow 10 pounds of hay and 10 pounds of grain per 1,000 pounds of live weight. The proportion of grain and roughage should be about equal, pound for pound. To regulate the kind and quantity of feed properly, the quality of the feed, the supply and market prices, the amount of work done, the individuality of the horse, his condition as to flesh and spirits, the condition of the droppings, and the appetite must all be taken into account. Sudden changes should be avoided, and the horse should never be fed more than he will readily clean up, nor should he be fed when very hot. It does not pay to feed cooked, cut, ground, or soaked feeds except in cases of poor teeth or faulty digestion. The teeth should be in good condition to masticate feed properly. It is advisable to sprinkle dusty hay. The grain ration should be thoroughly mixed before being fed and the roughage should be shaken out. Damp grain should not be allowed to mold in the trough. All feed should be of good quality. Judgment, common sense, fairness with the horse, and the happy medium of feeding enough but not too much will aid greatly in maintaining a horse in the most serviceable condition. A horse should be given only a small amount of water when hot or if he has gone without drinking for a considerable length of time. Experimental evidence seems to show that it does not make any difference whether he is watered before or after eating. Salt should be kept before the horse constantly. Condimental stock feeds are usually not worth what they cost in the stores. If a condiment is needed, the following will be found useful:

Sulphate of soda	pound	1
Bicarbonate of soda	do	1
Chlorid of soda	do	1
Fenugreek	ounces	2
Linseed meal	pounds	25

Mix well together. Give one teaspoonful at each feed.

Rations.—In December, 1909, a 1,000-pound driving mare at the United States Morgan horse farm, averaging 20 miles daily, consumed the following ration:

	Pounds.
Hay	10
Whole oats	1
Ground oats	1½
Cracked corn	6½
Mixed feed	3

The mixed feed consisted of corn, oats and bran in about equal parts. In the United States Cavalry, 12 pounds of oats and 14 pounds of hay are fed to the horses the year around. During November, 1911, a 950-pound mare at the Bureau of Animal Industry experiment farm, averaging 12 miles daily, consumed the following ration:

	Pounds.
Hay	6½
Whole oats	6½
Ear corn	1½
Cowpea hay	3
Corn stover	3

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The cowpea hay contained a good percentage of grain. Street car horses in Bremen, averaging 1,150 pounds in weight, consumed the following ration:[1]

	Pounds.
Corn	14.3
Oats	2.2
Peas	1.1
Hay	8.8
Straw	2.2

Ration of driving horse at Wyoming Station, weighing 1,200 pounds:[1]

	Pounds.
Alfalfa	21.25
Straw	3.2

MANAGEMENT.

Quarters.—A box 10 by 12 feet with a clay floor is a good stall for a road horse. It should be light, warm, clean, and well ventilated. Straw makes the best bedding. There should be a paddock at least 100 feet square in which the horse can exercise on idle days.

Grooming.—Thorough grooming has a more important effect on a horse than mere improvement of appearance. It cleans and loosens the skin and stimulates the action of the pores. It keeps away parasites and increases the flow of blood to the skin and surface muscles. On returning from a drive, in a hot condition, the horse should have his head, nostrils, mouth, and parts under the tail sponged with cold water. A light cooling-out blanket should be placed on the animal and, if very hot, he should be walked until he begins to cool off. Then he should be rubbed dry and blanketed. The legs and feet should be cleaned after a drive, and the feet should be kept moist. Clipping early in the spring before the new hair comes out is beneficial if the horse has a long coat and can be protected from cold.

Shoeing.—Shoes should be fitted hot, but not extremely so. Generally the farrier will be successful by getting the feet in as nearly a natural condition as possible and applying a neat, well-fitting shoe. To prevent overreaching or forging, the front feet should have a beveled toe or roller motion shoe, and the hind feet should be shod to lessen the time of breaking over. Interfering and winging are corrected by weighting the proper portion of the shoe. It may take several trials to determine just what special shoeing a horse needs. Rubber and leather pads, rubber shoes, rope shoes, etc., help to lessen concussion and prevent slipping on city pavements.

Driving.—Become acquainted with your horse. Know his limit of speed, wind, and endurance. On starting out, drive slowly until the barrel is empty and then warm up to the pace gradually. When he gets his "second wind" he can be pushed. Do not hold a heavy line, but have your horse in hand. Avoid constant tapping with the whip or clucking. Have the harness pliable, well fitting, and free from dirt.

[1] From Farmers' Bulletin No. 170, U. S. Department of Agriculture.

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CONCLUSION.

To have a serviceable road horse, select one of the proper conformation, action, and disposition. Having this, study the animal, and vary feeds and methods to suit his individual requirements. Study the details and have the little things as well as the big things right. Know your horse's best working condition and seek to keep him in that condition.

HORSE'S PRAYER TO ITS OWNER AND DRIVER.

(Submitted through Hon. P. V. De Graw, Fourth Assistant Postmaster General, with the compliments of the Humane Society.)

To thee, my master, I offer my prayer:

Feed me and take care of me. Be kind to me. Do not jerk the reins. Do not whip me when going up hill.

Never strike, beat, or kick me when I fail to understand what you want of me, but give me a chance to understand you. Watch me, and if I refuse to do your bidding, see if there is not something wrong with my harness or feet.

Do not give me too heavy loads; never hitch me where water will drip on me. Keep me well shod. Don't force me along the smooth, slippery streets, and when I fall, be patient and help me, as I will do my best to keep up and serve you. Examine my teeth when I fail to eat; I may have an ulcerated tooth. That, you know, is very painful. I am unable to tell you in words when I am sick; so watch me, and I will try and tell you by signs. I suffer pain like you, but can not speak as you.

Pet me sometimes; I enjoy it, and I will learn to love you. Protect me in summer from the hot sun. Keep a blanket on me in winter weather, and never put a frosty bit in my mouth, but hold it in your hand a moment first.

I carry you, pull you, wait patiently for you long hours, day or night. I can not tell you when I am thirsty; give me clean, cool water often in hot weather.

Finally, when my strength is gone, instead of turning me over to a human brute to be tortured and starved, take my life in the easiest and quickest way, and your God will reward you in this life and in Heaven. You will not consider me irreverent if I ask this in the name of Him who was born in a stable. Amen.

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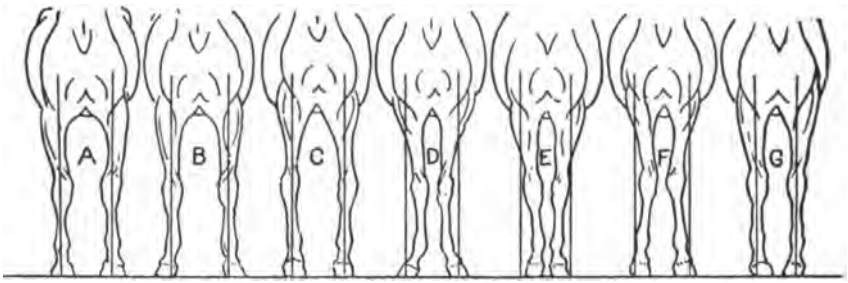

FIG. 1.—FRONT VIEW OF FORE LIMBS.

A vertical line downward from the point of the shoulder should fall upon the center of the knee cannon, pastern, and foot. Cut A of Fig. 1 represents the right conformation. B, C, D, E, F, and G represent common defects.

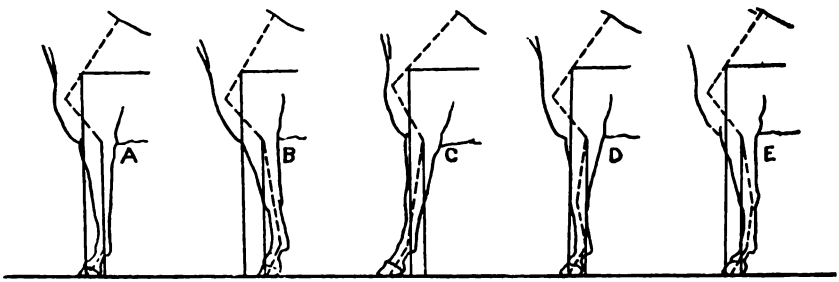

FIG. 2.—SIDE VIEW OF FORE LIMBS.

A vertical line drawn downward from the center of the elbow joint should fall upon the center of the knee and pastern joints and back of the foot; and a vertical line drawn downward from the middle of the arm should fall upon the center of the foot. Cut A of Fig. 2 represents the right conformation. B shows the foot placed too far back; C, too far forward; D, "knee-sprung;" and E, "knock-kneed."

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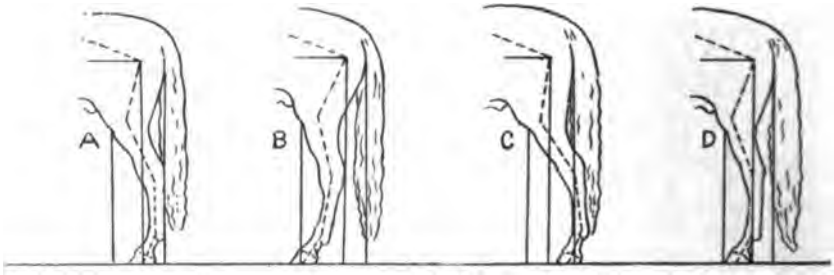

FIG. 3.—SIDE VIEW OF HIND LIMBS.

A vertical line drawn downward from the hip joint should fall upon the center of the foot and divide the gaskin in the middle; and a vertical line drawn from the point of the buttock should coincide with the angle of the hock and pastern joints. Cut A of Fig. 3 represents the right conformation. B, C, and D represent common defects.

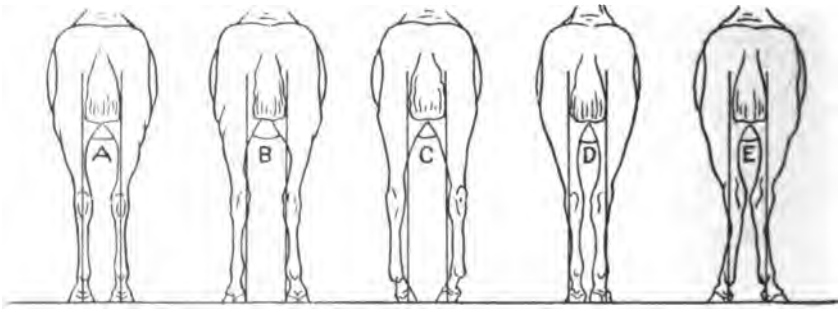

FIG. 4.—REAR VIEW OF HIND LIMBS.

A vertical line drawn downward from the point of the buttock should fall upon the center of the hock, cannon, pastern, and foot. Cut A of Fig. 4 represents the right conformation. B, C, D, and E represent common defects.

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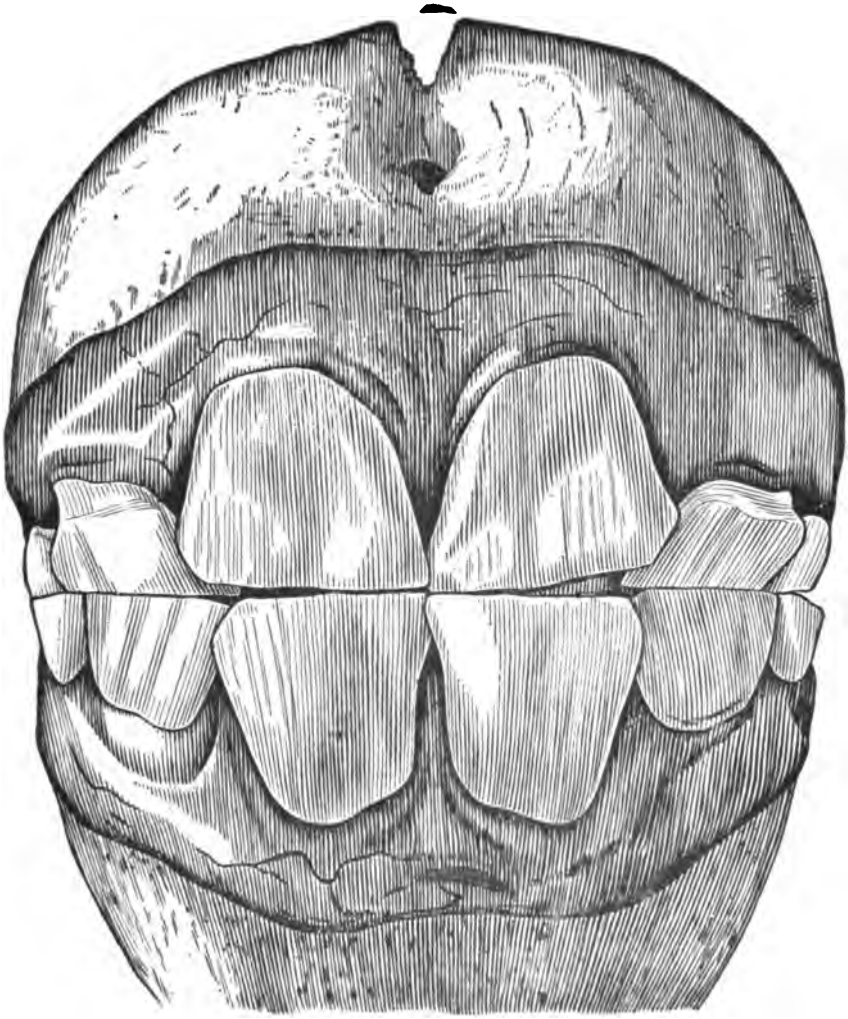

PL. 1, FIG. 1.—A three-year-old mouth. The four permanent incisors are seen, much wider and larger than the neighboring teeth.

(From Goubaux and Barrier's "The Exterior of the Horse," by permission of the J. B. Lippincott Co.)

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PL. 1, FIG. 2.—A four year-old mouth. The second pair of permanent incisors have appeared in both jaws, on a level with the first pair.

(From Goubaux and Barrier's "The Exterior of the Horse," by permission of the J. B. Lippincott Co.)

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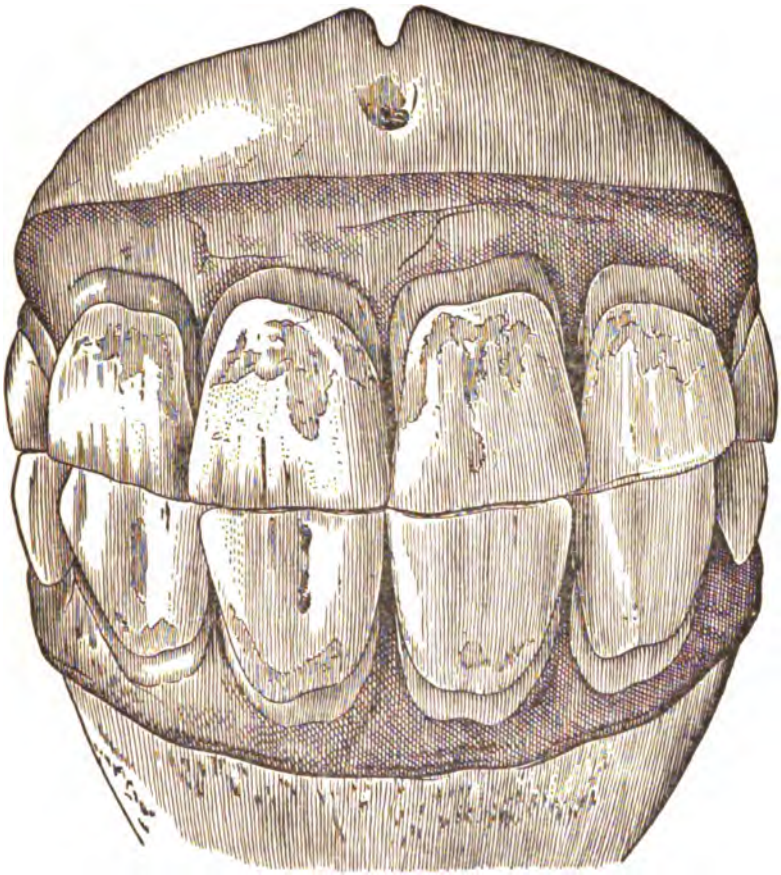

PL. 1, FIG. 3.—A five-year-old or "full" mouth. The mouth is entirely *made*. All the incisor teeth are on the same level in their respective jaws.

(From Goubaux and Barrier's "The Exterior of the Horse," by permission of the J. B. Lippincott Co.)

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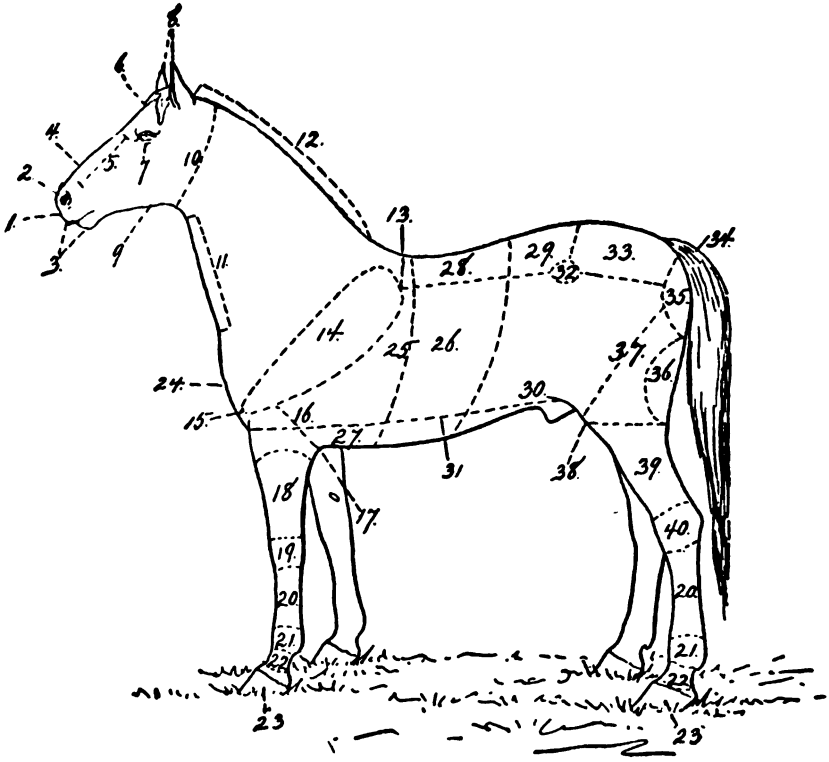

PL. IV.—POINTS OF THE HORSE.

1. Muzzle.
2. Nostril.
3. Lips.
4. Nose.
5. Face.
6. Forehead.
7. Eye.
8. Ears.
9. Angle of lower jaw.
10. Throatlatch, throat, or throttle.
11. Windpipe.
12. Crest.
13. Withers.
14. Shoulder.
15. Point of shoulder.
16. Arm.
17. Elbow or elbow joint.
18. Forearm.
19. Knee.
20. Cannons.
21. Fetlocks.
22. Pasterns.
23. Feet.
24. Breast.
25. Girth.
26. Barrel, or ribs.
27. Fore flank.
28. Back.
29. Loin.
30. Hind flank.
31. Underline.
32. Hip.
33. Croup, or rump.
34. Tail.
35. Buttock.
36. Quarter.
37. Thigh.
38. Stifle joint.
39. Gaskin, lower thigh stifle or leg.
40. Hock.

(From B. A. I. Bul. 61, U. S. Dept. Agr.)

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 908.

VETO MESSAGE RELATING TO THE IRON AND STEEL SCHEDULE.

MESSAGE

FROM THE

PRESIDENT OF THE UNITED STATES,

RETURNING TO

THE HOUSE OF REPRESENTATIVES, WITHOUT APPROVAL, H. R. 18642, A BILL ENTITLED "AN ACT TO AMEND AN ACT ENTITLED 'AN ACT TO PROVIDE REVENUE, EQUALIZE DUTIES, AND ENCOURAGE THE INDUSTRIES OF THE UNITED STATES, AND FOR OTHER PURPOSES,'" APPROVED AUGUST 5, 1909.

AUGUST 15, 1912.—Ordered to be printed.

To the House of Representatives:

I return, with my objections, H. R. 18642, a bill entitled "An act to amend an act entitled 'An act to provide revenue, equalize duties, and encourage the industries of the United States, and for other purposes,'" approved August 5, 1909.

This bill provides for a complete revision of Schedule C of the tariff law, relating to metals and manufactures of metals. In committee and in the consideration of the majority who passed the bill the important part of it seems to have been the basic manufactures of iron and steel, and most of the information which was obtained and discussed was in reference to that manufacture. The truth is that iron and steel as primary products are less than one-third in value of the subject matter covered by it; and that there may be no misunderstanding in regard to this, I present, as an appendix, a table prepared by the Census Bureau showing that included in Schedule C are 59 allied industries of sufficient importance to justify separate classification, study, and report by the Census Bureau, all of which are directly affected by the bill under consideration.

If only the primary products of iron and steel were affected by this bill, or if they constituted the larger part of the values involved in Schedule C, the consideration of the bill for purposes of approval or disapproval would be easier, but it is not within my power to separate these various industries. The bill is presented to me as a whole and must be approved or disapproved as a whole.

The table furnished shows that "foundry and machine shop products," which are secondary products of the iron and steel industry, are made by more than 13,000 competing establishments, with

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an invested capital of more than a billion and a half dollars, with more than half a million wage earners employed, and producing nearly a billion and a quarter dollars in value of products annually. Every dollar of this capital and every workman employed in the industry is directly affected by the bill, and I can not find, either in the report of the Committee on Ways and Means of the House or, to any extent, in the discussion of the schedule, that serious consideration has been given to the effect of this revision on this particular branch of the industry, and the same thing is true of more than two-thirds of the industries covered by the schedule.

It appears in the discussion of this revision now presented to me for consideration that no public hearings have been given by the Ways and Means Committee of the House, on the ground that it would thereby cause delay. The Ways and Means Committee avowed that the principle of protection had not been considered, but that in framing the present revision of the metal schedule the committee had "adopted the general principle of reducing all duties to a revenue basis, so far as practicable, except in those cases where more cogent considerations than those relating to the fiscal policy of the Government dictated the transfer of given items to the free list." This makes a clear-cut issue between the protective policy and that of a tariff for revenue only, and without fuller information, therefore, I am obliged to treat this bill as a revenue bill, and one in which the consideration of preserving the industry by maintaining a tariff necessary to do so had little weight. There is nothing to show me that the duties provided in the bill will equal the difference in the cost of production here and abroad in the great line of industries, and that the wages of workmen will not be reduced by a measure which avowedly discards entirely the principle of fair protection. It should be noted that the labor employed in the secondary industries, which has had so little consideration in this bill, is in a large measure high-grade, skilled labor, commanding a high level of wages.

This schedule was included in the general tariff revision of 1909, at which time public hearings were given, attended by importers, domestic producers, employees, and consumers, and the rates then on many of its items were heavily cut, ranging from 10 to 75 per cent, and it would seem now that a thorough study of each one of these separate industries should at least be made, that the Executive and Congress as well might act wisely and intelligently upon them, in order to avoid a further revision at an early date when the facts concerning them could be ascertained.

The products of many of these industries affected by this bill do not enter directly into the daily consumption of the people. The consumers of these products are, to a large extent, manufacturers using these articles in further processes of production. There is no evidence of any widespread demand from such consumers for a revision of the rates on these articles, and for this reason a sufficient time may well be taken to give the study to the respective industries which their importance would seem to demand.

I am not prepared to say that there are no items in this schedule which might not well be reduced, but the general average ad valorem rate of duty under it, taken as a whole for the year 1911, is 32.03 per cent, as against 37.97 per cent in 1896 under the Wilson law, or an apparent reduction of 15.6 per cent of the Wilson duties. The Dingley rates for this schedule in 1909 were 38.09 per cent, showing

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a reduction in 1911 for the present law of 15.9 per cent of the Dingley rates. Indeed, there is no year since 1883 when the Government statistics show as low an ad valorem rate of duty for this schedule as is shown in 1911, and it does not appear that schedule statistics were kept prior to 1883, so that no comparison can be made prior to that time.

There is little logical relation between the reductions made by this bill in the schedule. For example, steam engines and machine tools in the present law are dutiable at 30 per cent. In this revision steam engines are reduced to 15 per cent, and the whole machine-tool industry is put on the free list, without any reason whatever being given in the report of the Ways and Means Committee in either case for such action.

The term "machine tools" has already been the subject of much litigation, and its scope should be clearly defined before the great variety of articles which it now seems to cover are placed on the free list.

The expansion of our foreign trade would seem to demand that a transfer to the free list, like the one made in this bill, of such an enormous range of undetermined products and the opening of the best market in the world to free and unrestricted competition should not be made without at the same time at least securing, as is the case now of specified agricultural implements, the privilege of a like free entry into the markets of our competitors.

It is further difficult to understand by what process of reasoning it is possible to justify a transfer to the free list of a great line of finished articles, while nearly every one of the crude products from which they are made are retained on the dutiable list.

A bill for a complete revision of this schedule was presented to me a year ago in the extra session of this Congress. Many increases and decreases of rates are now made from those named in the former measure. The changes are not explained and indicate the hasty method pursued in the preparation of both. Is it not fair to ask, either on the basis of protection or revenue, which was right?

On the whole, therefore, I am not willing to approve of legislation of this kind, which vitally affects not only millions of workingmen and the families dependent on them, but hundreds of millions of dollars' worth of stocks of goods in the hands of storekeepers and distributors generally, without first providing for a careful and disinterested inquiry into the conditions of the whole industry.

From the outset of my administration I have urged a revision of the tariff based on a nonpartisan study of the facts. I have provided the means for securing such information in the appointment of a Tariff Board. Their thorough work, already completed on several schedules, has justified my confidence in this method. The principle is indorsed by chambers of commerce and boards of trade in almost every city of importance in the country. The proposed bill has not been framed on the basis of any such study of the industry.

Avowedly its rates are fixed with no consideration of anything but revenue. The principle of protection is disregarded entirely, and therefore it is not too much to say that the effect of these sweeping changes on the welfare of those engaged in these varied industries has been disregarded.

WM. H. TAFT.

THE WHITE HOUSE, *August 14, 1912.*

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APPENDIX.

[Department of Commerce and Labor, Bureau of the Census. E. Dana Durand, director.]

Totals for metals and manufactures of.

[Census of Manufactures: 1909.]

Industry.	Number of establishments.	Capital.	Wage earners (average number).	Wages.	Value of products.
Total	28,119	$4,965,624,394	1,481,494	$901,471,865	$4,626,890,528
Automobiles, including bodies and parts	743	173,837,111	75,721	48,693,867	249,202,075
Babbitt metal and solder	109	7,418,015	897	560,804	19,767,935
Bicycles, motorcycles, and parts	95	9,780,102	4,437	2,908,199	10,698,567
Brass and bronze products	1,021	109,319,224	40,618	23,677,383	149,989,058
Cars, steam-railroad, not including operations of railroad companies	110	139,804,667	43,086	27,135,222	123,729,627
Cars, street railroad, not including operations of railroad companies	14	14,167,999	3,583	2,176,949	7,809,886
Cash registers and calculating machines	50	27,224,063	7,465	5,311,890	23,708,326
Clocks and watches, including cases and materials	120	57,500,469	23,857	12,944,169	35,196,842
Copper, tin, and sheet-iron products	4,228	217,532,108	73,615	39,500,794	199,824,218
Cutlery and tools, not elsewhere specified	959	67,379,841	32,996	17,581,244	53,265,757
Electrical machinery, apparatus, and supplies	1,009	267,844,432	87,256	49,381,145	221,308,563
Electroplating	461	2,324,025	2,717	1,652,315	4,509,559
Enameling and japanning	108	2,879,995	2,125	921,667	3,315,694
Engraving and die sinking	253	1,448,960	1,308	821,472	2,249,861
Files	57	10,412,762	4,158	1,977,877	5,691,203
Firearms and ammunition	66	39,377,094	14,715	8,427,249	34,111,564
Fire extinguishers, chemical	31	526,959	195	126,728	754,165
Foundry and machine-shop products	13,253	1,514,332,273	531,011	321,520,917	1,228,475,148
Galvanizing	46	4,197,392	1,447	786,796	7,338,330
Gas and electric fixtures, and lamps and reflectors	619	36,835,455	18,861	10,393,078	45,057,372
Gold and silver, leaf and foil	88	1,183,690	1,383	636,967	2,630,500
Hand stamps and stencils and brands	361	2,439,418	1,651	951,814	3,073,025
Horseshoes, not made in steel works or rolling mills	19	1,396,209	293	166,278	1,014,576
Instruments, professional and scientific	263	11,723,619	4,817	2,925,087	10,503,601
Iron and steel, blast furnaces	208	487,580,659	38,429	24,606,530	391,429,283
Iron and steel, steel works and rolling mills	446	1,004,735,111	240,076	163,200,758	985,722,534
Iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills	108	30,250,388	11,345	5,793,243	24,484,907
Iron and steel, doors and shutters	29	3,044,831	1,601	874,340	3,005,685
Iron and steel forgings	172	27,754,630	8,168	5,003,181	20,293,440
Iron and steel, nails and spikes, cut and wrought, including wire nails, not made in steel works or rolling mills	57	8,897,704	2,765	1,352,555	8,191,620
Iron and steel pipe, wrought	28	22,266,161	6,817	3,963,075	30,886,270
Lead, bar, pipe and sheet	33	20,587,288	802	510,047	9,144,930
Locomotives, not made by railroad companies	16	52,059,567	14,909	8,914,266	31,582,302
Needles, pins, and hooks and eyes	49	6,705,118	4,638	2,064,378	6,694,095
Pens, fountain, stylographic, and gold	65	3,120,971	1,225	711,795	4,738,693
Pens, steel	5	803,783	699	230,030	576,696
Phonographs and graphophones	18	14,363,361	5,199	2,840,503	11,725,996
Safes and vaults	42	8,944,434	3,343	2,071,762	8,490,541
Saws	96	14,854,667	4,832	2,856,291	11,535,631
Scales and balances	87	10,182,707	3,559	2,186,230	8,785,642
Screws, machine	43	3,728,071	1,667	970,088	3,014,112
Screws, wood	11	9,569,972	3,464	1,453,932	6,198,955
Sewing machines, cases, and attachments	47	33,103,704	19,296	11,102,026	28,262,416
Silverware and plated ware	183	46,758,876	16,610	10,281,761	42,228,547
Smelting and refining, lead	28	132,310,220	7,424	5,430,652	167,405,650
Smelting and refining, zinc	29	27,759,853	6,655	4,210,341	34,205,894
Smelting and refining, not from the ore	89	13,834,487	2,147	1,281,124	28,072,041
Soda-water apparatus	63	8,588,937	1,797	1,239,450	6,555,597
Springs, steel, car and carriage	54	8,783,779	3,196	1,852,917	9,005,362
Stereotyping and electrotyping	174	3,825,833	2,850	2,312,104	6,383,694
Stoves and furnaces, including gas and oil stoves	576	86,943,849	37,130	22,944,279	78,853,323
Surgical appliances and artificial limbs	324	11,044,827	4,241	2,128,927	12,399,314
Tinplate and terneplate	31	10,994,813	5,352	3,314,874	47,969,645
Tinfoil	10	2,504,942	683	303,711	3,418,818
Typefounding and printing materials	122	6,792,912	2,026	1,190,720	4,703,506
Typewriters and supplies	89	26,308,688	9,578	6,221,423	19,718,767
Vault lights and ventilators	37	606,708	327	227,761	956,720
Wire	56	60,157,073	18,084	10,315,722	84,486,518
Wirework, including wire rope and cable	611	34,969,588	12,348	6,331,158	41,937,952

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[H. R. 18642. Sixty-second Congress of the United States of America; at the second session, begun and held at the city of Washington on Monday, the fourth day of December, one thousand nine hundred and eleven.]

An Act to amend an Act entitled "An Act to provide revenue, equalize duties and encourage the industries of the United States, and for other purposes," approved August fifth, nineteen hundred and nine.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That on and after the day following the passage of this Act there shall be levied, collected, and paid the rates of duty which are prescribed in the paragraphs of this Act upon the articles hereinafter enumerated, when imported from any foreign country into the United States or into any of its possessions (except the Philippine Islands and the islands of Guam and Tutuila), and the said paragraphs and sections shall constitute and be a substitute for paragraphs one hundred and seventeen to one hundred and ninety-nine, inclusive, of an Act entitled "An Act to provide revenue, equalize duties and encourage the industries of the United States, and for other purposes," approved August fifth, nine hundred and nine.

DUTIABLE LIST.

1. Iron in pigs, iron kentledge, spiegeleisen, wrought and cast scrap iron and scrap steel, six per centum ad valorem; but nothing shall be deemed scrap iron or scrap steel except second-hand or waste or refuse iron or steel fit only to be remanufactured; ferromanganese, chrome or chromium metal, ferrochrome or ferrochromium, ferromolybdenum, ferrophosphorus, ferrotitanium, ferrotungsten, ferrovanadium, molybdenum, titanium, tantalum, tungsten or wolfram metal, and ferrosilicon, ten per centum ad valorem.

2. All iron in slabs, blooms, loops, or other forms less finished than iron in bars and more advanced than pig iron, except castings; muck bars, bar iron, square iron, rolled or hammered, round iron, in coils or rods, bars or shapes of rolled or hammered iron not specially provided for in this Act or in the first section of the Act cited for amendment, ten per centum ad valorem.

3. Beams, girders, joists, angles, channels, car-truck channels, T T, columns and posts or parts or sections of columns and posts, deck and bulb beams, and building forms, together with all other structural shapes of iron or steel, whether plain, punched, or fitted for use, or whether assembled or manufactured, fifteen per centum ad valorem.

4. Boiler or other plate iron or steel, and strips of iron or steel, not specially provided for in this Act or in the first section of the Act cited for amendment, sheets of iron or steel, common or black, of whatever dimensions, whether plain, corrugated or crimped, including crucible plate steel and saw plates, cut or sheared to shape or otherwise, or unsheared, and skelp iron or steel, whether sheared or rolled in grooves, or otherwise, fifteen per centum ad valorem.

5. Iron or steel anchors or parts thereof; forgings of iron or steel, or of combined iron and steel, but not machined, tooled, or otherwise advanced in condition by any process or operation subsequent to the forging process, not specially provided for in this Act or in the first section of the Act cited for amendment, fifteen per centum ad valorem; antifriction balls, ball bearings, and roller bearings, of iron or steel or other metal, finished or unfinished, twenty-five per centum ad valorem.

6. Hoop, band, or scroll iron or steel not otherwise provided for in this Act or in the first section of the Act cited for amendment, fifteen per centum ad valorem.

7. Railway bars, made of iron or steel, and railway bars made in part of steel, T rails and punched iron or steel flat rails, railway fish plates or spliced bars made of iron or steel, ten per centum ad valorem.

8. All iron or steel sheets, plates, or strips, and all hoop, band, or scroll iron or steel, when galvanized or coated with zinc, spelter, or other metals, or any alloy of those metals; sheets or plates composed of iron, steel, copper, nickel, or other metal with layers of other metal or metals imposed thereon by forging, hammering, rolling, or welding; sheets of iron or steel, polished, planished, or glanced, by whatever name designated, including such as have been pickled or cleaned by acid, or by any other material or process, or which are cold rolled, smoothed only, not polished, and such as are cold hammered, blued, brightened, tempered, or polished by any process to such perfected surface finish or polished better than the grade of cold rolled, smoothed only; and sheets or plates of iron or steel, or taggers iron or steel, coated with tin or lead, or with a mixture of which these metals, or either of them, is a component part, by the dipping or any other process, and commercially known as tin plates, terne plates, and taggers tin, twenty per centum ad valorem.

9. Steel ingots, cogged ingots, blooms, and slabs, by whatever process made; die blocks or blanks; billets and bars and tapered or beveled bars; mill shafting; pressed,

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sheared, or stamped shapes, not advanced in value or condition by any process or operation subsequent to the process of stamping; hammer molds or swaged steel; gun-barrel molds not in bars; alloys used as substitutes for steel in the manufacture of tools; all descriptions and shapes of dry sand, loam, or iron-molded steel castings; sheets and plates and steel not specially provided for in this Act or in the first section of the Act cited for amendment, ten per centum ad valorem.

10. Steel wool or steel shavings, twenty per centum ad valorem.

11. Grit, shot, and sand made of iron or steel, that can be used as abrasives, twenty per centum ad valorem.

12. Rivet, screw, fence, and other iron or steel wire rods, whether round, oval, flat, or square, or in any other shape, and nail rods, all the foregoing in coils or otherwise, including wire rods and iron or steel bars, cold rolled, cold drawn, cold hammered, or polished in any way in addition to the ordinary process of hot rolling or hammering, ten per centum ad valorem: *Provided*, That all round iron or steel rods smaller than number six wire gauge shall be classed and dutiable as wire.

13. Round iron or steel wire, all wire composed of iron, steel, or other metal except gold or silver, covered with cotton, silk, or other material, corset clasps, corset steels, dress steels, and all flat wires, and steel in strips, not thicker than number fifteen wire gauge and not exceeding five inches in width, whether in long or short lengths, in coils or otherwise, and whether rolled or drawn through dies or rolls, or otherwise produced, and all other wire not specially provided for in this Act or in the first section of the Act cited for amendment; iron and steel wire coated by dipping, galvanizing, or similar process with zinc, tin, or other metal, twenty per centum ad valorem: *Provided*, That articles manufactured wholly or in chief value of any wire or wires provided for in this paragraph shall pay the rate of duty imposed in this Act or in the first section of the Act cited for amendment upon any wire used in the manufacture of such articles: *And provided further*, That no article made from or composed of wire shall pay a less rate of duty than twenty per centum ad valorem: *And provided further*, That barbed and all other fence wire and wire fencing and baling wire shall be exempt from duty; telegraph, telephone, and other wires and cables composed of metal and rubber, or of metal, rubber, and other materials, twenty per centum ad valorem; wire heddles or healds, twenty-five per centum ad valorem.

14. No article not specially provided for in this Act or in the first section of the Act cited for amendment, which is wholly or partly manufactured from tin plate, terne plate, or the sheet, plate, hoop, band, or scroll iron or steel herein provided for, or of which such tin plate, terne plate, sheet, plate, hoop, band, or scroll iron or steel shall be the material of chief value, shall pay a lower rate of duty than that imposed on the tin plate, terne plate, or sheet, plate, hoop, band, or scroll iron or steel from which it is made, or of which it shall be the component thereof of chief value.

15. No allowance or reduction of duties for partial loss or damage in consequence of rust or of discoloration shall be made upon any description of iron or steel, or upon any article wholly or partly manufactured of iron or steel, or upon any manufacture of iron or steel.

16. All metal produced from iron or its ores, which is cast and malleable, of whatever description or form, without regard to the percentage of carbon contained therein, whether produced by cementation, or converted, cast, or made from iron or its ores, by the crucible, Bessemer, Clapp-Griffith, pneumatic, Thomas-Gilchrist, basic, Siemens-Martin, or open-hearth process, or by the equivalent of either, or by a combination of two or more of the processes, or their equivalents, or by any fusion or other process which produces from iron or its ores a metal either granular or fibrous in structure, which is cast and malleable, excepting what is known as malleable-iron castings, shall be classed and denominated as steel.

17. Anvils of iron or steel, or of iron and steel combined, by whatever process made, or in whatever stage of manufacture, fifteen per centum ad valorem.

18. Automobiles, bicycles, and motorcycles, and finished parts of any of the foregoing, not including tires, forty per centum ad valorem.

19. Axles, or parts thereof, axle bars, axle blanks, or forgings for axles, whether of iron or steel, without reference to the stage or state of manufacture, not otherwise provided for in this Act, or in the first section of the Act cited for amendment, ten percentum ad valorem: *Provided*, That when iron or steel axles are imported fitted in wheels, or parts of wheels, of iron or steel, they shall be dutiable at the same rate as the wheels in which they are fitted.

20. Blacksmiths' hammers, tongs, and sledges, track tools, wedges, and crowbars, whether of iron or steel, ten per centum ad valorem.

21. Bolts, with or without threads or nuts, or bolt blanks, finished hinges or hinge blanks, and spiral nut locks and washers, whether of iron or steel, fifteen per centum ad valorem.

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22. Card clothing not actually and permanently fitted to and attached to carding machines or to parts thereof at the time of importation, when manufactured with round iron or round steel wire, tempered or untempered, and including that manufactured with plated wire or other than iron or steel wire, or with felt face, wool face, or rubber face cloth containing wool, thirty per centum ad valorem.

23. Cast-iron pipe of every description, cast-iron andirons, plates, stove plates, sadirons, tailor's irons, hatter's irons, and castings and vessels wholly of cast iron, including all castings of iron or cast-iron plates which have been chiseled, drilled, machined, or otherwise advanced in condition by processes or operations subsequent to the casting process but not made up into articles; castings of malleable iron not specially provided for in this Act or in the first section of the Act cited for amendment; cast hollow ware, coated, glazed, or tinned, ten per centum ad valorem.

24. Chain or chains of all kinds, made of iron or steel, twenty per centum ad valorem.

25. Lap-welded, butt-welded, seamed, or jointed iron or steel tubes, pipes, flues, or stays, cylindrical or tubular tanks or vessels, for holding gas, liquids, or other material, whether full or empty, flexible metal tubing or hose, not specially provided for in this Act or in the first section of the Act cited for amendment, whether covered with wire or other material, or otherwise, including any appliances or attachments affixed thereto, welded cylindrical furnaces, tubes or flues made from plate metal, and corrugated, ribbed, or otherwise reinforced against collapsing pressure, and all other iron or steel tubes, finished, not specially provided for in this Act or in the first section of the Act cited for amendment, twenty per centum ad valorem.

26. Penknives, pocketknives, clasp knives, pruning knives, budding knives, erasers, manicure knives, and all knives by whatever name known, including such as are denominatively mentioned in this Act or in the first section of the Act cited for amendment, which have folding or other than fixed blades or attachments, and razors, all the foregoing, whether assembled but not fully finished or finished, thirty-five per centum ad valorem: *Provided*, That blades, handles, or other parts of any of the foregoing knives, razors, or erasers shall be dutiable at not less than the rate herein imposed upon knives, razors, and erasers. Scissors and shears, and blades for the same, finished or unfinished, thirty per centum ad valorem: *Provided further*, That all articles specified in this paragraph shall, when imported, have the name of the maker or purchaser and beneath the same the name of the country of origin die-sunk conspicuously and indelibly on the shank or tang of at least one or, if practicable, each and every blade thereof.

27. Sword blades, and swords and side arms, irrespective of quality or use, in part of metal, thirty per centum ad valorem.

28. Table, butchers', carving, cooks', hunting, kitchen, bread, butter, vegetable, fruit, cheese, carpenters' bench, curriers', drawing, farriers', fleshing, hay, tanners', plumbers', painters', palette, artists', and shoe knives, forks, and steels, finished or unfinished, with or without handles, twenty-five per centum ad valorem: *Provided*, That all the articles specified in this paragraph, when imported, shall have the name of the maker or purchaser, and beneath the same the name of the country of origin indelibly stamped or branded thereon in a place that shall not be covered thereafter.

29. Files, file blanks, rasps, and floats, of all cuts and kinds, twenty-five per centum ad valorem.

30. Muskets, muzzle-loading shotguns and rifles, and parts thereof, fifteen per centum ad valorem.

31. Breech-loading shotguns and rifles, combination shotguns and rifles, and parts thereof and fittings therefor, including barrels further advanced than rough bored only; pistols, whether automatic, magazine, or revolving, or parts thereof and fittings therefor, thirty-five per centum ad valorem.

32. Table, kitchen, and hospital utensils, or other similar hollow ware, of iron or steel, enameled or glazed with vitreous glasses, but not ornamented or decorated with lithographic or other printing, twenty-five per centum ad valorem.

33. Needles for knitting or sewing machines, latch needles, crochet needles, and tape needles, knitting and all other needles not specially provided for in this Act or in the first section of the Act cited for amendment, and bodkins of metal, twenty-five per centum ad valorem; but no articles other than the needles which are specifically named in this Act or in the first section of the Act cited for amendment shall be dutiable as needles unless having an eye, and fitted and used for carrying a thread. Needle cases or needle books furnished with assortments of needles or combinations of needles and other articles shall pay duty as entireties according to the component material of chief value therein.

34. Fishhooks, ten per centum ad valorem; fishing rods and reels, artificial flies, artificial baits, snelled hooks, and all other fishing tackle or parts thereof, not specially provided for in this Act or in the first section of the Act cited for amendment, except fishing lines, fishing nets and seines, thirty per centum ad valorem.

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35. Steel plates engraved, stereotype plates, electrotype plates, and plates of other materials, engraved for printing, plates of iron or steel engraved or fashioned for use in the production of designs, patterns, or impressions on glass in the process of manufacturing plate or other glass, fifteen per centum ad volorem; lithographic plates of stone or other material engraved, drawn, or prepared, and wet transfer paper or paper prepared wholly with glycerin, or glycerin combined with other materials, containing the imprints taken from lithographic plates, twenty-five per centum ad valorem.

36. Rivets, studs, and steel points, lathed, machined, or brightened, and rivets or studs for nonskidding automobile tires, and rivets of iron or steel, not specially provided for in this Act or in the first section of the Act cited for amendment, twenty per centum ad valorem.

37. Crosscut saws, mill saws, pit and drag saws, circular saws, steel band saws, finished or further advanced than tempered and polished, hand, back, and all other saws, not specially provided for in this Act or in the first section of the Act cited for amendment, twelve per centum ad valorem.

38. Screws, commonly called wood screws, made of iron or steel, twenty-five per centum ad valorem.

39. Umbrella and parasol ribs and stretchers, composed in chief value of iron, steel, or other metal, in frames or otherwise, and tubes for umbrellas, wholly or partially finished, thirty per centum ad valorem.

40. Wheels for railway purposes, or parts thereof, made of iron or steel, and steel-tired wheels for railway purposes, whether wholly or partly finished, and iron or steel locomotive, car, or other railway tires or parts thereof, wholly or partly manufactured, twenty-five per centum ad valorem; ingots, cogged ingots, blooms, or blanks for the same, without regard to the degree of manufacture, ten per centum ad valorem: *Provided*, That when wheels for railway purposes, or parts thereof, of iron or steel, are imported with iron or steel axles fitted in them, the wheels and axles together shall be dutiable at the same rate as is provided for the wheels when imported separately.

41. Aluminum, aluminum scrap, and alloys of any kind in which aluminum is the component material of chief value, in crude form, aluminum in plates, sheets, bars, and rods; barium, calcium, magnesium, sodium, and potassium, and alloys of which said metals are the component material of chief value, twenty-five per centum ad valorem.

42. Antimony, as regulus or metal, antimony ore, stibnite and matte containing antimony but not containing more than ten per centum of lead, ten per centum ad valorem on the antimony contents therein contained: *Provided*, That on all importations of antimony-bearing ores and matte containing antimony the duties shall be estimated at the port of entry, and a bond given in double the amount of such estimated duties for the transportation of the ores by common carriers bonded for the transportation of appraised or unappraised merchandise to properly equipped sampling or smelting establishments, whether designated as bonded warehouses or otherwise. On the arrival of the ores at such establishments, they shall be sampled according to commercial methods under the supervision of Government officers, who shall be stationed at such establishments, and who shall submit the samples thus obtained to a Government assayer, designated by the Secretary of the Treasury, who shall make a proper assay of the sample and report the result to the proper customs officers, and the import entry shall be liquidated thereon, except in case of ores that shall be removed to a bonded warehouse to be refined for exportation as provided by law, and the Secretary of the Treasury is authorized to make all necessary regulations to enforce the provisions of this paragraph; antimony, oxide of, twenty-five per centum ad valorem.

43. Argentine, albata, or German silver, unmanufactured, fifteen per centum ad valorem.

44. Bauxite, or beauxite, crude, not refined or otherwise advanced in condition from its natural state, ten per centum ad valorem.

45. Bronze powder, brocades, flitters, and metallics; bronze, or Dutch-metal or aluminum, in leaf, twenty-five per centum ad valorem.

46. Copper, in rolled plates, called braziers' copper, sheets, rods, pipes, and copper bottoms, sheathing or yellow metal of which copper is the component material of chief value, and not composed wholly or in part of iron ungalvanized, five per centum ad valorem.

47. Gold leaf, thirty-five per centum ad valorem.

48. Silver leaf, thirty per centum ad valorem.

49. Tinsel wire, lame or lahn, made wholly or in chief value of gold, silver, or other metal, ten per centum ad valorem; bullions and metal threads, made wholly or in chief value of tinsel wire, lame or lahn, thirty per centum ad valorem; fabrics, laces, embroideries, braids, galloons, trimmings, ribbons, beltings, ornaments, toys, or other

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articles, made wholly or in chief value of tinsel wire, lame or lahn, bullions, or metal threads, forty per centum ad valorem.

50. Hooks and eyes, metallic, whether loose, carded, or otherwise, fifteen per centum ad valorem.

51. Lead-bearing ore of all kinds, and lead dross, twenty-five per centum ad valorem upon the lead contained therein: *Provided*, That on all importations of lead-bearing ores the duties shall be estimated at the port of entry, and a bond given in double the amount of such estimated duties for the transportation of the ores by common carriers bonded for the transportation of appraised or unappraised merchandise to properly equipped sampling or smelting establishments, whether designated as bonded warehouses or otherwise. On the arrival of the ores at such establishments they shall be sampled according to commercial methods under the supervision of Government officers, who shall be stationed at such establishments, and who shall submit the samples thus obtained to a Government assayer, designated by the Secretary of the Treasury, who shall make a proper assay of the sample and report the result to the proper customs officers, and the import entries shall be liquidated thereon, except in case of ores that shall be removed to a bonded warehouse to be refined for exportation as provided by law. And the Secretary of the Treasury is authorized to make all necessary regulations to enforce the provisions of this paragraph.

52. Lead bullion or base bullion, lead in pigs and bars, lead in any form not specially provided for in this section, old refuse lead run into blocks and bars, and old scrap lead fit only to be remanufactured; lead in sheets, pipe, shot, glaziers' lead, and lead wire; all the foregoing, twenty-five per centum ad valorem.

53. Metallic mineral substances in a crude state, and metals unwrought, whether capable of being wrought or not, not specially provided for in this Act or in the first section of the Act cited for amendment, ten per centum ad valorem; monazite sand and thorite; thorium, oxide of and salts of; gas mantles treated with chemicals or metallic oxides; and gas-mantle scrap consisting in chief value of metallic oxides, twenty-five per centum ad valorem.

54. Nickel, nickel oxide, alloy of any kind in which nickel is a component material of chief value, in pigs, ingots, bars, rods, or plates, ten per centum ad valorem; sheets or strips, twenty per centum ad valorem.

55. Pens, metallic, twenty-five per centum ad valorem.

56. Penholder tips, penholders and parts thereof, gold pens, fountain pens, and stylographic pens; combination penholders, comprising penholder, pencil, rubber eraser, automatic stamp, or other attachment, twenty-five per centum ad valorem.

57. Pins with solid heads, without ornamentation, including hair, safety, hat, bonnet, and shawl pins; any of the foregoing composed wholly of brass, copper, iron, steel, or other base metal, not plated with gold or silver, and not commonly known as jewelry, twenty per centum ad valorem.

58. Quicksilver, ten per centum ad valorem. The flasks, bottles, or other vessels in which quicksilver is imported shall be subject to the same rate of duty as they would be subjected to if imported empty.

59. Type metal, on the lead contained therein, and new types, fifteen per centum ad valorem.

60. Watch movements, including time-detectors, whether imported in cases or not, watch cases and parts of watches, chronometers, box or ship, and parts thereof, lever clock movements having jewels in the escapement, and clocks containing such movements, all other clocks and parts thereof, not otherwise provided for in this Act or in the first section of the Act cited for amendment, whether separately packed or otherwise, not composed wholly or in chief value of china, porcelain, parian, bisque, or earthenware, thirty per centum ad valorem; all jewels for use in the manufacture of watches or clocks, ten per centum ad valorem; enameled dials for watches or other instruments, thirty-five per centum ad valorem: *Provided*, That all watch and clock dials, whether attached to movements or not, shall have indelibly painted or printed thereon the country of origin, and that all watch movements, lever clock movements with jewels in the escapement, whether imported assembled or knocked down for reassembling, and cases of foreign manufacture, shall have the name of the manufacturer and country of manufacture cut, engraved, or die-sunk conspicuously and indelibly on the plate of the movement and the inside of the case, respectively, and the movements shall also have marked thereon by one of the methods indicated the number of jewels and adjustments, said number to be expressed either in words or in Arabic numerals; and none of the aforesaid articles shall be delivered to the importer unless marked in exact conformity to this direction.

61. Zinc in blocks or pigs and zinc dust; in sheets, and old and worn-out zinc fit only to be remanufactured, fifteen per centum ad valorem.

62. Cans, boxes, packages, and other containers of all kinds (except such as are hermetically sealed by soldering or otherwise), composed wholly or in chief value of

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metal lacquered or printed by any process of lithography whatever, if filled or unfilled, and whether their contents be dutiable or free, thirty per centum ad valorem; but no cans, boxes, packages, or containers of any kind, of the capacity of five pounds or under, subject to duty under this paragraph, shall pay less duty than if the same were imported empty; and the dutiable value of the same shall include all packing charges, cartons, wrappings, envelopes, and printed matter accompanying them when such cans, boxes, packages, or containers are imported wholly or partly filled with merchandise exempt from duty (except liquids and merchandise commercially known as drugs) and which is commonly dealt in at wholesale in the country of original exportation in bulk or in packages exceeding five pounds in capacity: *Provided*, That paper, cardboard, or pasteboard wrappings or containers that are made and used only for the purpose of holding or containing the article with which they are filled, and after such use are mere waste material, shall not be dutiable unless their contents are dutiable.

63. Bottle caps of metal, whether plain or colored, waxed, lacquered, enameled, lithographed, or embossed in color, thirty per centum ad valorem.

64. All steam engines, fifteen per centum ad valorem; embroidering machines, and lace-making machines, including machines for making lace curtains, nets, or nettings, twenty-five per centum ad valorem.

65. Nippers and pliers of all kinds wholly or partly manufactured, thirty per centum ad valorem.

66. Articles or wares not specially provided for in this Act or in the first section of the Act cited for amendment, composed wholly or in part of iron, steel, lead, copper, nickel, pewter, zinc, gold, silver, platinum, aluminum, or other metal, and whether partly or wholly manufactured, twenty-five per centum ad valorem.

FREE LIST.

That on and after the day following the passage of this Act the articles mentioned in the following paragraphs shall, when imported into the United States or into any of its possessions (except the Philippine Islands and the islands of Guam and Tutuila), be exempt from duty:

67. Iron ore, including manganiferous iron ore, and the dross or residuum from burnt pyrites.

68. Hoop or band iron, or hoop or band steel, cut to lengths, or wholly or partly manufactured into hoops or ties, coated or not coated with paint or any other preparation, with or without buckles or fastenings, for baling cotton or any other commodity.

69. Barbed and all other fence wire and wire fencing and baling wire.

70. Cut nails and cut spikes of iron or steel, horseshoe nails, hobnails, and all other wrought iron or steel nails not specially provided for in this Act or in the first section of the Act cited for amendment, wire staples, wire nails made of wrought iron or steel, spikes, nuts, and washers, and horse, mule, or ox shoes, of wrought iron or steel, and cut tacks, brads, or sprigs.

71. Tungsten-bearing ores of all kinds.

72. Zinc-bearing ore of all kinds, including calamine.

73. Cash registers, linotype and all typesetting machines, machine tools, printing presses, sewing machines, typewriters, and tar and oil spreading machines used in the construction and maintenance of roads and in improving them by the use of road preservatives, all the foregoing whether imported in whole or in parts, including repair parts.

SEC. 2. That on and after the day following the passage of this Act all goods, wares, and merchandise previously imported and hereinbefore enumerated, described, and provided for, for which no entry has been made, and all such goods, wares, and merchandise previously entered without payment of duty and under bond for warehousing, transportation, or any other purpose, for which no permit of delivery to the importer or his agent has been issued, shall be subjected to no other duty upon the entry or withdrawal thereof than the duty which would be imposed if such goods, wares, or merchandise were imported on or after that date.

CHAMP CLARK,
Speaker of the House of Representatives.

JACOB H. GALLINGER,
President of the Senate pro tempore.

I certify that this Act originated in the House of Representatives.

SOUTH TRIMBLE, *Clerk.*

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 910.

VETO MESSAGE RELATING TO LEGISLATIVE APPROPRIATION BILL.

MESSAGE

FROM THE

PRESIDENT OF THE UNITED STATES,

RETURNING TO

THE HOUSE OF REPRESENTATIVES, WITHOUT APPROVAL, HOUSE BILL 24023, MAKING APPROPRIATIONS FOR THE LEGISLATIVE, EXECUTIVE, AND JUDICIAL EXPENSES OF THE GOVERNMENT FOR THE FISCAL YEAR ENDING JUNE 30, 1913, AND FOR OTHER PURPOSES, AND STATING CERTAIN OBJECTIONS THERETO.

AUGUST 15, 1912.—Ordered to be printed.

To the House of Representatives:

I return herewith, without my approval, H. R. 24023, entitled "An act making appropriations for the legislative, executive, and judicial expenses of the Government for the fiscal year ending June 30, 1913, and for other purposes." This is one of the great supply bills necessary for the maintenance of the Government, and it goes without saying that nothing but reasons of especial importance would lead me to interpose objections to its passage.

In a message returning the Army appropriation bill to the House of Representatives with my objections to its approval, under date of June 17, 1912, I ventured to point out the dangers inherent in the practice of attaching substantive legislation to appropriation bills, and I need not repeat them here It is sufficient to say, however, that when it is thought wise by Congress to include in general supply bills important substantive legislation, and the Executive can not approve such legislation, it is his constitutional duty to return the bill with his objections, and the responsibility for delay in the appropriation of the necessary expenses to run the Government can not rest upon the Executive, but must be put where it belongs—upon the majority in each House of Congress that has departed from the ordinary course and united with an appropriation bill amendments to substantive law. The importance and absolute necessity of furnishing funds to maintain and operate the Government can not be used by the Congress to force upon the Executive

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acquiescence in permanent legislation which he can not conscientiously approve.

There are two provisions in this bill which I can not permit to become law with my approval. One concerns the permanent statutory regulation of the tenure of office of those now included within the classified service in the departments and independent establishments of the Government within the District of Columbia. The other is a provision repealing the statute creating a Commerce Court, to consist of five circuit judges, for the purpose of passing on appeals from the decisions of the Interstate Commerce Commission.

First. By section 4 of this act the Civil Service Commission is directed, subject to the approval of the President, to establish a system of efficiency ratings for the classified service in the several executive departments in the District of Columbia, based upon records kept in each department and independent establishment with such frequency as to make them as nearly as possible records of fact. The system is to provide a minimum rating of efficiency which must be attained by an employee before he may be promoted; a rating below which no employee may fall without being demoted; and a rating below which no employee may fall without being dismissed for inefficiency. All promotions, demotions, or dismissals are to be governed by provisions of the civil-service rules. Records of efficiency are to be furnished by the departments and independent establishments to the Civil Service Commission.

This section 4 is an admirable section, and, if properly carried out, will greatly improve the present civil service.

Section 5, however, introduces a new and radical feature into the present system. It provides that every appointment in the classified service after the 1st of September of next year shall be for a term of seven years after the probationary period of six months has expired, and that at the expiration of each such appointment the employment of each person so appointed shall cease and determine; and that the employment of all persons, appointed prior to September 1, 1912, in such classified service at annual rates of compensation shall cease and determine within one year after August 31, 1919, the date of termination during that year to be determined by the head of the appropriate department according to previous length of service. The cessation of employment and the ending of the term in these cases is absolute, without regard to efficiency rating under section 4, but section 5 contains the proviso that all persons separated by its terms from the classified service, if they are up to the standard of efficiency then in force and capable of rendering a full measure of service, may, in the discretion of the head of the executive department, be reappointed without examination for another term of seven years.

The effect of this section is to leave it to the discretion of the head of the department in the case of each classified employee at the end of his term of seven years to say whether that employee, no matter how high his standing, shall continue, or whether another shall be selected from the eligible list submitted in accordance with law and regulation by the Civil Service Commission.

I believe this to be a genuine effort on the part of those who propose it to meet the difficulty presented in the present civil-service system by superannuation of the employees and the impossibility

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of eliminating those who through age and disease have ceased to be efficient. It is recognized that one method of meeting this difficulty is by a system of civil pension which will retire persons from the civil service at a certain age, or upon confirmed disability. It has been found impossible to secure an enforcement of the present law which requires every person who is not efficient in the service of the Government to be discharged, because it imposes upon the heads of departments and bureaus the disagreeable and ungracious duty of throwing out of employment, without any means of livelihood, the men and women who have spent many years in the employment of the Government and in times past have rendered good service.

I disapprove of section 5 because I do not think it will accomplish its proposed purpose, and I do not think it adds anything in efficiency to the provisions of section 4. If section 4 is carried out, then the superannuated will have to go when their inefficiency is properly determined, and this whether section 5 is on the statute book or not; and if section 4 is not enforced, then section 5 adds little or nothing in the way of getting rid of superannuated and inefficient clerks.

If section 4 is loosely enforced, so that the rate of efficiency of the superannuated clerk is charitably maintained by his superior at or above the minimum standard, there will be the same pressure to retain the clerk at the end of his seven years as there was to maintain his minimum rate, and the same reluctance as in the present system to turn him out at an advanced age without means of a livelihood after long years of service.

I do not share in the objection to a civil-pension system. I am strongly in favor of it, provided it involves features of compulsory insurance of employees, secured by an application of part of the salary of each toward the maintenance of the necessary funds. Such a system has already been embodied in the Gillett bill, and I know of no reason why it should not be adopted.

As to the present measure, I object to it, first, because for the reasons stated it will prove ineffective, as the present system has, in the matter of superannuated clerks; and, second, because it impairs that feature of the civil service which I regard as a most valuable one, to wit: The permanence of tenure on the one hand, balanced by a wide and almost absolute power of removal in the department head on the other. If at the end of each seven years it becomes necessary for one who has spent the best years of his life in the public service to ascertain whether he is to continue, it is certain that he will bring pressure to bear in every direction upon the appointing power to continue him in office. I am perfectly aware that the motive for not reappointing him will be much reduced by the fact that his successor must be appointed from the eligibles of the Civil Service Commission, but the play which this will give for prejudice and arbitrary action in the appointing power will constitute a serious injury to the present tenure of office.

Much has been said in the way of criticizing the present service as to the overpayment of the civil servants. It is true that in the departments there are many at salaries between $900 and $2,000 who are overpaid, but it is also true that there are many within those limits and nearly all who serve at salaries higher than $2,000 who are

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underpaid. The efficiency and wonderfully loyal service rendered by many of the employees of the Government who have concluded to devote their lives to the public service, to be content with only moderate salaries, because of the permanence of the tenure, can only be known to those who have had large experience in the character of the sevice rendered by the civil servants in the District of Columbia. I am not content to risk serious injury to the tone and efficacy of that service to accomplish something that in my judgment will not be accomplished by a change which will rob those who are in the service of a peace of mind that makes up in some degree for the sacrifices they have been obliged to undergo in devoting their lives at small pay to the Government. I am aware that there are malingerers and others in the service who contribute but little to its efficiency. They would be disposed of by the proper enforcement of section 4.

But there is a large part of the civil-servant body which consists of hard-working, loyal, and efficient persons, who render to the Government more than they receive and who give character to the service. It is their permanence of tenure that led them to seek the service and keeps them in it. Of course it will be said that such clerks are likely to be retained. Probably; but the difference between mere probability of continuance and permanent tenure is the difference between worry and active solicitation of every influence in the seventh year and that contentment of mind that is alone consistent with undivided attention to public duty.

Second. The Commerce Court was created by the amendment to the interstate-commerce act passed June 18, 1910. Prior to that time, whenever an order of the Interstate Commerce Commission was made against a railroad company over which the Interstate Commerce Commission was given supervision, and it was contended that the order was contrary to law, or was a taking of the property of the company without due process of law, or, in other words, was confiscatory, jurisdiction belonged to the circuit courts of the United States to enjoin the orders of the commission until their validity could be established. It had been the purpose of many to give to the Interstate Commerce Commission complete regulatory control over the railroads of the country in the matter of rates and in other features of their management, without allowing courts to interfere.

But it was clearly developed that any law was unconstitutional by which it was attempted to deprive the railroad companies of the right to go into court to test the validity of an order as confiscatory or violative of the statutory authority of the commission, and that if no provision at all were made for such judicial review, then the courts would possess it without special authority. So such jurisdiction in circuit courts of the United States was recognized in the act. The system involved hearings in circuit courts of 84 different districts in which the cause of action might arise. The litigation begun at Washington and carried through the Interstate Commerce Commission might then be transferred to some distant district. The district judge, or the circuit judge, or the circuit court of appeals took up the case, presenting a subject matter often entirely new, and found it difficult promptly to dispose of it in the multitude of other duties. This system imposed a delay in the necessary judicial consideration of interstate-commerce orders before they became effective that sometimes postponed their going into force for several years.

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In the interest, therefore, of the dispatch of business, in the interest of the public, and especially in the interest of the shippers who were seeking to prevent injustice by the railroads, it was thought wise to create a court of five circuit judges whose first duty should be to sit en banc as a Court of Commerce into which all complaints might be brought for prompt hearing and disposition.

The statistical record of the last two years shows that the average time in which this ordinary litigation, following the Interstate Commerce Commission's orders before the order of the commission shall become effective, has been reduced from more than two years to about six months. The litigation has not occupied all the time of the Commerce Court, and under special provisions of the act, the Chief Justice of the United States has assigned the circuit judges to judicial labors in the Federal courts all over the country, greatly to the advantage of litigants and to the dispatch of business in those courts. It should be said that under the provisions of the section abolishing the Commerce Court in this bill, jurisdiction to consider the validity of the orders of the Interstate Commerce Commission is given to a court of three judges in each of the nine circuits, one of the judges to be a circuit judge or a Supreme Justice. This requirement, good in many ways, only makes the delays of such a countrywide jurisdiction more certain and is in no way comparable in the matter of dispatch of business to the Commerce Court system.

It appears from the decisions of the Supreme Court of the United States that the Commerce Court in several cases has amplified its jurisdiction beyond that which a proper construction of the statute justified. It also appears that in a number of cases the decisions were against the shippers and for the railroads when the Supreme Court decided that they ought to have been the other way. On the other hand, it appears that in a number of other cases the decisions of the Commerce Court were in favor of the shippers and in favor of giving relief to the shippers, against the railroad companies, but that the Supreme Court has since denied the existence of such jurisdiction under the statute. A series of decisions of the Supreme Court has satisfactorily established the limits of the jurisdiction of the new court, and there is no reason to believe that those limits thus established will in future be exceeded. There is every reason to believe that the dispatch of business already promoted by the court will continue. And now the question is, Why should the court be abolished? Because it has made some mistakes that the Supreme Court has rectified? Lower courts, especially when exercising new jurisdiction, are likely to make errors to be corrected by the Supreme Court. The presiding judge of the Commerce Court was the chairman of the Interstate Commerce Commission for a great many years. Three of the Commerce Court judges before their appointment to the Commerce Court had been United States district judges of long experience, and one had been a State judge of standing and experience. The personnel of the court is to change from year to year by the assignment of one of the Commerce Court judges to a circuit court of appeals, and the designation of another circuit judge to fill the vacancy thus made.

I have read the arguments upon which this proposed legislation is urged and I can not find in them a single reason why the court should be abolished except that those who propose to abolish it object to certain of its decisions. Some of those decisions have been sustained

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and others have been disapproved or modified by the Supreme Court. I am utterly opposed to the abolition of a court because its decisions may not always meet the approval of a majority of the Legislature. It is introducing a recall of the judiciary, which, in its way, is quite as objectionable as the ordinary popular method proposed. Next to impartial and just judgment the great desideratum in judicial reforms to-day is the promotion of the dispatch of business and the prompt decision of cases. The establishment of the Commerce Court has brought this about in a substantial way by reducing the average delay from two years to six months, and I doubt not that as time goes on and the procedure becomes better understood this period of six months will be further reduced. It is greatly in the interest of the shippers and therefore of the public that this means of reducing the time of effective remedial litigation against railroads should be preserved.

WM. H. TAFT.

THE WHITE HOUSE, *August 15, 1912.*

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H. R 24023.—AN ACT Making appropriations for the legislative, executive, and judicial expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and thirteen, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, out of any money in the Treasury not otherwise appropriated, in full compensation for the service of the fiscal year ending June thirtieth, nineteen hundred and thirteen, for the objects hereinafter expressed, namely:

LEGISLATIVE.

SENATE.

For compensation of Senators, $720,000.

For mileage of Senators, $51,000.

For compensation of the officers, clerks, messengers, and others in the service of the Senate, namely:

OFFICE OF THE VICE PRESIDENT: Secretary to the Vice President, $4,000; messenger, $1,440; telegraph operator, $1,500; telegraph page, $600; in all, $7,540.

CHAPLAIN: For Chaplain of the Senate, $1,200.

OFFICE OF SECRETARY: Secretary of the Senate, including compensation as disbursing officer of salaries of Senators and of the contingent fund of the Senate, $6,500; hire of horse and wagon for the Secretary's office, $420; assistant secretary, Henry M. Rose, $5,000; chief clerk, $3,250; financial clerk, $3,000 and $1,250 additional while the office is held by the present incumbent; minute and journal clerk, principal clerk, reading clerk, and enrolling clerk, at $3,000 each; executive clerk, and assistant financial clerk, at $2,750 each; librarian, file clerk, chief bookkeeper, assistant journal clerk, two clerks, printing clerk, and clerk compiling a history of revenue bills, at $2,500 each; first assistant librarian, $2,400; keeper of stationery, $2,400; compiler of Navy Yearbook and Senate report on river and harbor bill, Woodbury Pulsifer, $2,220; indexer for Senate public documents, and two clerks, at $2,220 each; two clerks, at $2,100 each; assistant librarian, $1,800; assistant librarian, $1,600; skilled laborer, $1,200; clerk, $1,800; clerk, $1,600; assistant keeper of stationery, $2,000; assistant in stationery room, $1,200; messenger, $1,440; assistant messenger, $1,200; three laborers, at $840 each; three laborers, at $720 each; laborer in stationery room, $720; in all, $94,040.

DOCUMENT ROOM: Superintendent, George H. Boyd, $3,000; two assistants, at $2,250 each; assistant, $1,440; two clerks, at $1,440 each; skilled laborer, $1,200; in all, $13,020.

CLERKS AND MESSENGERS TO COMMITTEES: Clerk to the Committee on Additional Accommodations for the Library of Congress,

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$2,220, messenger, $1,440; clerk to the Committee on Agriculture and Forestry, $2,500, assistant clerk, $1,800, messenger, $1,440; clerk to the Committee on Appropriations, $4,000, two assistant clerks, at $2,500 each, two assistant clerks, at $1,440 each, messenger, $1,440; laborer, $720; clerk to the Committee to Audit and Control the Contingent Expenses of the Senate, $2,500, messenger, $1,440, messenger, $1,200; clerk to the Committee on Canadian Relations, $2,220, messenger, $1,440, messenger, $1,200; clerk to the Committee on the Census, $2,220, assistant clerk, $1,200, messenger, $1,440; clerk to the Committee on Civil Service and Retrenchment, $2,220, messenger, $1,440, messenger, $1,200; clerk to the Committee on Claims, $2,500, assistant clerk, $2,000, assistant clerk, $1,440, messenger, $1,200; clerk to the Committee on Coast and Insular Survey, $2,220, messenger, $1,440; clerk to the Committee on Coast Defenses, $2,220, assistant clerk, $1,440, messenger, $1,200; clerk to the Committee on Commerce, $2,500, assistant clerk, $1,800, messenger, $1,440; clerk to the Conference Minority of the Senate, $2,220, assistant clerk, $1,800, messenger, $1,200; clerk to the Committee on Conservation of National Resources, $2,220, assistant clerk, $1,200, messenger, $1,440; clerk to the Committee on Corporations Organized in the District of Columbia, $2,220, messenger, $1,440; clerk to the Committee on Cuban Relations, $2,220, assistant clerk, $1,440, messenger, $1,200; clerk to the Committee on Disposition of Useless Papers in the Executive Departments, $2,220, messenger, $1,440; clerk to the Committee on the District of Columbia, $2,500, assistant clerk, $1,800, messenger, $1,440; clerk to the Committee on Education and Labor, $2,220, assistant clerk, $1,440, messenger, $1,200; clerk to the Committee on Engrossed Bills, $2,220, messenger, $1,440; clerk to the Committee on Enrolled Bills, $2,220, assistant clerk, $1,440; clerk to the Committee to Examine the Several Branches of the Civil Service, $2,220, messenger, $1,440; clerk to the Committee on Expenditures in the Department of Agriculture, $2,220, messenger, $1,440; clerk to the Committee on Expenditures in the Department of Commerce and Labor, $2,220, messenger, $1,440; clerk to the Committee on Expenditures in the Interior Department, $2,220, messenger, $1,440, messenger, $1,200; clerk to the Committee on Expenditures in the Department of Justice, $2,220, assistant clerk, $1,440, messenger, $1,440; clerk to the Committee on Expenditures in the Navy Department, $2,220, messenger, $1,440, messenger, $1,200; clerk to the Committee on Expenditures in the Post Office Department, $2,220, messenger, $1,440, messenger, $1,200; clerk to the Committee on Expenditures in the Department of State, $2,220, messenger, $1,440; clerk to the Committee on Expenditures in the Treasury Department, $2,220, messenger, $1,440, messenger, $1,200; clerk to the Committee on Expenditures in the War Department, $2,220, messenger, $1,440, messenger, $1,200; clerk and stenographer to the Committee on Finance, $3,000, assistant clerk, $2,220, assistant clerk, $1,600, assistant clerk, $1,440, messenger, $1,440; clerk to the Committee on Fisheries, $2,220, assistant clerk, $1,440, messenger, $1,440; clerk to the Committee on the Five Civilized Tribes of Indians, $2,220, messenger, $1,440; clerk to the Committee on Foreign Relations, $2,500, assistant clerk, $2,220, messenger, $1,440; clerk to the Committee on Forest Reservations and the Protection of Game, $2,220, messenger, $1,440; clerk to

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the Committee on the Geological Survey, $2,220, messenger, $1,440; clerk to the Committee on Immigration, $2,220, assistant clerk, $1,800, messenger, $1,440; clerk to the Committee on Indian Affairs, $2,500, assistant clerk, $1,440, messenger, $1,440; clerk to the Committee on Indian Depredations, $2,220, messenger, $1,440; clerk to the Committee on Industrial Expositions, $2,220, messenger, $1,440, messenger, $1,200; clerk to the Committee on Interoceanic Canals, $2,220, assistant clerk, $1,440, messenger, $1,200; clerk to the Committee on Interstate Commerce, $2,500, two assistant clerks, at $1,800 each, messenger, $1,440; clerk to the Committee to Investigate Trespassers on Indian Lands, $2,220, messenger, $1,440; clerk to the Committee on Irrigation and Reclamation of Arid Lands, $2,220, messenger, $1,440, messenger, $1,200; clerk to the Committee on the Judiciary, $2,500, assistant clerk, $2,220, two assistant clerks, at $1,800 each, messenger, $1,440; clerk to the Joint Committee on the Library, $2,500, assistant clerk, $1,440, messenger, $1,200; clerk to the Committee on Manufactures, $2,500, assistant clerk, $1,440, messenger, $1,440; clerk to the Committee on Military Affairs, $2,500, assistant clerk, $2,220, assistant clerk, $1,440, messenger, $1,200; clerk to the Committee on Mines and Mining, $2,220, messenger, $1,440, messenger, $1,200; clerk to the Committee on the Mississippi River and its Tributaries, $2,220, messenger, $1,440; clerk to the Committee on National Banks, $2,220, messenger, $1,440; clerk to the Committee on Naval Affairs, $2,500, assistant clerk, $1,440, messenger, $1,440; clerk to the Committee on Pacific Islands and Porto Rico, $2,220, assistant clerk, $1,800, messenger, $1,440; clerk to the Committee on Pacific Railroads, $2,220, messenger, $1,440; clerk to the Committee on Patents, $2,220, messenger, $1,440, messenger, $1,200; clerk to the Committee on Pensions, $2,500, assistant clerk, $1,800, three assistant clerks, at $1,440 each, messenger, $1,440; clerk to the Committee on the Philippines, $2,220, assistant clerk, $1,800, messenger, $1,440; clerk to the Committee on Post Offices and Post Roads, $2,500, three assistant clerks, at $1,440 each, messenger, $1,440; clerk of printing records, $2,220, assistant clerk, $1,800, messenger, $1,440; clerk to the Committee on Private Land Claims, $2,220, assistant clerk, $1,800; clerk to the Committee on Privileges and Elections, $2,220, assistant clerk, $1,440, messenger, $1,440; clerk to the Committee on Public Buildings and Grounds, $2,500, assistant clerk, $1,440, messenger, $1,440; clerk to the Committee on Public Health and National Quarantine, $2,220, assistant clerk, $1,440; clerk to the Committee on Public Lands, $2,500, assistant clerk, $1,800, assistant clerk, $1,440, messenger, $1,440; clerk to the Committee on Railroads, $2,220, messenger, $1,440; clerk to the Committee on Revolutionary Claims, $2,220, messenger, $1,440; clerk to the Committee on Rules, $2,220, assistant clerk, $1,800, messenger, $1,440; clerk to the Committee on Standards, Weights, and Measures, $2,220, messenger, $1,440; clerk to the Committee on Territories, $2,220, assistant clerk, $1,440, messenger, $1,440; clerk to the Committee on Transportation and Sale of Meat Products, $2,220, messenger, $1,440; clerk to the Committee on Transportation Routes to the Seaboard, $2,220, messenger, $1,440; clerk to the Committee on the University of the United States, $2,220, messenger, $1,440; clerk to the Committee on Woman Suffrage, $2,220, messenger, $1,440; in all, $370,940.

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OFFICE OF SERGEANT AT ARMS AND DOORKEEPER: Sergeant at Arms and Doorkeeper, $6,500; horse and wagon for his use, $420, or so much thereof as may be necessary; Assistant Sergeant at Arms, $2,500; assistant doorkeeper, $2,592; acting assistant doorkeeper, $2,592; four messengers, acting as assistant doorkeepers, at $1,800 each; thirty-seven messengers, at $1,440 each; two messengers on the floor of the Senate, at $2,000 each; messenger at card door, $1,600; clerk on Journal work for Congressional Record, to be selected by the official reporters, $2,000; storekeeper, $2,220; upholsterer and locksmith, $1,440; cabinetmaker, $1,200; three carpenters, at $1,080 each; janitor, $1,200; four skilled laborers, at $1,000 each; skilled laborer, $900; laborer in charge of private passage, $840; three female attendants in charge of ladies' retiring room, at $720 each; chief telephone operator, $1,200; two telephone operators, at $900 each; night telephone operator, $720; telephone page, $720; superintendent of press gallery, $1,800; assistant superintendent of press gallery, $1,400; laborer, $840; twenty-seven laborers, at $720 each; sixteen pages for the Senate Chamber, at the rate of $2.50 per day each during the session, $4,800; in all, $132,604.

For the following for Senate Office Building under the Sergeant at Arms, namely: Stenographer in charge of furniture accounts and keeper of furniture records, $1,200; two messengers, at $1,440 each; attendant in charge of bathing rooms, $1,800; two attendants in bathing rooms, at $720 each; three attendants to women's toilet rooms, at $720 each; janitor for bathing rooms, $720; two messengers acting as mail carriers, at $1,200 each; and messenger for service to the press correspondents, $900; in all, $13,500.

For police force for Senate Office Building under the Sergeant at Arms, namely: For sixteen privates, at $1,050 each; one special officer, $1,200, $18,000.

POST OFFICE: Postmaster, $2,250; chief clerk, $1,800 (Deficiency Act July twenty-first, nineteen hundred and eleven); six mail carriers and one wagon master, at $1,200 each; three riding pages, at $912.50 each; in all, $15,187.50.

FOLDING ROOM: Assistant, $1,400; clerk, $1,200; foreman, $1,400; six folders, at $1,000 each; eight folders, at $840 each; in all, $16,720.

UNDER SUPERINTENDENT OF THE CAPITOL BUILDING AND GROUNDS: Chief engineer, $2,160; assistant engineer and electrician, $1,800; three assistant engineers, at $1,440 each; ten conductors of elevators, at $1,200 each; two machinists and electricians, at $1,400 each; four laborers, at $720 each; laborer in charge of Senate toilet rooms in old library space, $660; attendant for service in old library portion of the Capitol, $1,500; in all, $28,120.

For the following for the Senate Office Building, under the Superintendent of the Capitol Building and Grounds, subject to the control and supervision of the Senate Committee on Rules, namely: Fourteen elevator conductors, at $1,200 each; in all, $16,800.

CLERKS TO SENATORS: For thirty-five annual clerks to Senators who are not chairmen of committees, at $2,000 each, $70,000.

STENOGRAPHERS TO SENATORS: For twenty-two stenographers to Senators who are not chairmen of committees, and three stenographers to the chairmen of the three junior minority committees, at $1,200 each, $30,000.

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CONTINGENT EXPENSES, NAMELY: For stationery for Senators and the President of the Senate, including $6,000 for stationery for committees and officers of the Senate, $18,125.

For postage stamps for the office of the Secretary of the Senate, $200; for the office of the Sergeant at Arms, $150; in all, $350.

For expenses of maintaining and equipping horses and mail wagons for carrying the mails, $6,000, or so much thereof as may be necessary.

For materials for folding, $2,000.

For folding speeches and pamphlets, at a rate not exceeding $1 per thousand, $8,000.

For fuel and advertising, exclusive of labor, $2,500.

For purchase of furniture, $8,500.

For materials for furniture and repairs of same, exclusive of labor, $3,000.

For services in cleaning, repairing, and varnishing furniture, $2,000.

For packing boxes, $970.

For miscellaneous items, exclusive of labor, $50,000.

For rent of warehouse for storage of public documents for the Senate, $3,600, and authority is hereby given to use any part or all of said sum for moving documents contained in said warehouse to buildings owned by the Government.

For miscellaneous items on account of the Maltby Building, $17,280.

For expenses of inquiries and investigations ordered by the Senate, including compensation to stenographers to committees, at such rate as may be fixed by the Committee to Audit and Control the Contingent Expenses of the Senate, but not exceeding $1.25 per printed page, $25,000.

For reporting the debates and proceedings of the Senate, $30,000, payable in equal monthly installments.

To enable the Postmaster of the Senate to keep a constant supply of postage stamps for sale to Senators, $200.

The library collected by the National Monetary Commisssion is hereby made a part of the Library of Congress and is placed under the administration of the Librarian of Congress, and the sum of $500, or so much thereof as may be necessary, is hereby appropriated for the purpose of moving the books and the present stacks and shelving to the Library of Congress.

CAPITOL POLICE.

For captain, $1,800; three lieutenants, at $1,200 each, two special officers, at $1,200 each; and sixty-seven privates, at $1,050 each; one-half of said privates to be selected by the Sergeant at Arms of the Senate and one-half by the Sergeant at Arms of the House of Representatives; in all, $78,150, one-half to be disbursed by the Secretary of the Senate and the other half to be disbursed by the Clerk of the House of Representatives.

For contingent expenses, $300, one-half to be disbursed by the Secretary of the Senate and the other half to be disbursed by the Clerk of the House of Representatives.

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CONGRESSIONAL DIRECTORY.

For expenses of compiling, preparing, and indexing the Congressional Directory, to be expended under the direction of the Joint Committee on Printing, $1,600.

HOUSE OF REPRESENTATIVES.

For compensation of Members of the House of Representatives, Delegates from Territories, the Resident Commissioner from Porto Rico, and the Resident Commissioners from the Philippine Islands, $3,099,500.

For mileage of Representatives and Delegates, and expenses of Resident Commissioners, $154,000.

For compensation of the officers, clerks, messengers, and others in the service of the House of Representatives, namely:

OFFICE OF THE SPEAKER: Secretary to the Speaker, $4,000; clerk to the Speaker's table, $3,600, and for preparing Digest of the Rules, $1,000 per annum; clerk to the Speaker, $1,600; messenger to the Speaker, $1,440; messenger to the Speaker's table, $1,200 (transferred from Doorkeeper's office); in all, $12,840.

CHAPLAIN: For Chaplain of the House, $1,200.

OFFICE OF THE CLERK: Clerk of the House of Representatives, including compensation as disbursing officer of the contingent fund, $6,500; hire of horse and wagon for use of the Clerk's office, $900, or so much thereof as may be necessary; chief clerk, $4,500; journal clerk, and two reading clerks, at $4,000 each; disbursing clerk, $3,400; tally clerk, $3,300; file clerk, $3,250; enrolling clerk, $3,000; chief bill clerk, $3,000 (House resolution May ninth, nineteen hundred and eleven); assistant to chief clerk, and assistant enrolling clerk, at $2,500 each; assistant disbursing clerk, $2,400; stationery clerk, $2,200; librarian, $2,100; assistant file clerk, $1,900; two assistant librarians, and one clerk, at $1,800 each; three clerks, at $1,680 each; bookkeeper, and assistant in disbursing office, at $1,600 each; four assistants to chief bill clerk, at $1,500 each (House resolution May ninth, nineteen hundred and eleven); stenographer to clerk, $1,400; locksmith, who shall be skilled in his trade, $1,300; messenger in chief clerk's office, and assistant in stationery room, at $1,200 each; messenger in file room, one messenger in disbursing office, and assistant in House library, at $1,100 each; stenographer to chief bill clerk, $1,000 (House resolution May ninth, nineteen hundred and eleven); three telephone operators, at $900 each; three telephone operators, at $75 per month each from December first, nineteen hundred and twelve, to March thirty-first, nineteen hundred and thirteen; night telephone operator, $900; for services of a substitute telephone operator when required, at $2.50 per day, $200; two laborers in the bathroom, at $900 each; two laborers, and page in enrolling room, at $720 each; allowance to chief clerk for stenographic and typewriter services, $1,000; in all, $92,150.

UNDER SUPERINTENDENT OF THE CAPITOL BUILDING AND GROUNDS: Chief engineer, $1,900; three assistant engineers, at $1,300 each; twenty-four conductors of elevators, including fourteen for service in the House Office Building, at $1,200 each; who shall be under the supervision and direction of the Superintendent of the Capitol Build-

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ing and Grounds; machinist, $1,300; electrician, $1,200; four laborers, at $800 each; in all, $40,300.

CLERKS, MESSENGERS, AND JANITORS TO COMMITTEES: Clerk to the Committee on Accounts, $2,500, assistant clerk, $1,800, janitor, $1,000; clerk to the Committee on Agriculture, $2,500, assistant clerk, $1,800, janitor, $1,000; clerk to the Committee on Appropriations, $4,000, and $1,000 additional while the office is held by the present incumbent, assistant clerk and stenographer, $2,500, assistant clerk, $1,900, janitor, $1,000; clerk to the Committee on Banking and Currency, $2,000, assistant clerk, $1,200, janitor, $720; clerk to the Committee on the Census, $2,000, janitor, $720; clerk to the Committee on Claims, $2,500; assistant clerk, $1,200, janitor, $720; clerk to the Committee on Coinage, Weights, and Measures, $2,000, janitor, $720; clerk to the Committee on the District of Columbia, $2,500, assistant clerk, $1,800, janitor, $720; clerk to the Committee on Elections Number One, $2,000, janitor, $1,000; clerk to the Committee on Elections Number Two, $2,000, janitor, $720; clerk to the Committee on Elections Number Three, $2,000, janitor, $720; clerk to the Committee on Enrolled Bills, $2,000, janitor, $720; clerk to the Committee on Foreign Affairs, $2,500, assistant clerk, $1,800, janitor, $720, clerk to the Committee on Immigration and Naturalization, $2,000, janitor, $720; clerk to the Committee on Indian Affairs, $2,500; assistant clerk, $1,800, janitor, $720; clerk to the Committee on Industrial Arts and Expositions, $2,000, janitor, $720; clerk to the Committee on Insular Affairs, $2,000, janitor, $720; clerk to the Committee on Interstate and Foreign Commerce, $2,500, additional clerk, $2,000, assistant clerk, $1,500, janitor, $1,000; clerk to the Committee on Irrigation of Arid Lands, $2,000, janitor, $720; clerk to the Committee on Invalid Pensions, $2,500, stenographer, $2,190, assistant clerk, $2,000, janitor, $1,000; clerk to the Committee on the Judiciary, $2,500, assistant clerk, $1,600, janitor, $720; clerk to the Committee on Labor, $2,000, janitor, $720; clerk to the Committee on the Library, $2,000, janitor, $720; clerk to the Committee on Merchant Marine and Fisheries, $2,000, janitor, $720; clerk to the Committee on Military Affairs, $2,500, assistant clerk, $1,500, janitor, $1,000; clerk to the Committee on Naval Affairs, $2,400, assistant clerk, $1,500, janitor, $1,000; clerk to the Committee on Patents, $2,000, janitor, $720; clerk to the Committee on Pensions, $2,500, assistant clerk, $1,600, janitor, $720; clerk to the Committee on Post Offices and Post Roads, $2,500, assistant clerk, $1,400, janitor, $1,000; clerk to the Committee on Printing, $2,000, janitor, $1,000; clerk to the Committee on Public Buildings and Grounds, $2,500, assistant clerk, $1,200, janitor, $720; clerk to the Committee on Public Lands, $2,000, assistant clerk, $1,200, janitor, $720; clerk to the Committee on Revision of the Laws, $2,000, janitor, $720; clerk to the Committee on Rivers and Harbors, $2,500, assistant clerk, $1,800, janitor, $1,000; clerk to the Committee on Rules, $2,000, janitor, $720; clerk to the Committee on Territories, $2,000, janitor, $720; clerk to the Committee on War Claims, $2,500, clerk, to continue Digest of Claims under resolution of March seventh, eighteen hundred and eighty-eight, $2,500, assistant clerk, $1,200, janitor, $720; clerk to the Committee on Ways and Means, $3,000, assistant clerk and stenographer, $2,000; assistant clerk, $1,900, janitor, $1,000, janitor, $720; in all, $162,230.

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Janitors under the foregoing shall be appointed by the chairmen, respectively, of said committees, and shall perform under the direction of the Doorkeeper all of the duties heretofore required of messengers detailed to said committees by the Doorkeeper, and shall be subject to removal by the Doorkeeper at any time after the termination of the Congress during which they were appointed.

For nine clerks to committees, at $6 each per day during the session, $6,480.

OFFICE OF SERGEANT AT ARMS: Sergeant at Arms of the House of Representatives, $6,500; Deputy Sergeant at Arms, $2,500; cashier, $3,400; financial clerk, $2,700; bookkeeper, $2,200; deputy sergeant at arms in charge of pairs, $1,800; messenger, $1,400; skilled laborer, $840; stenographer and typewriter, $900; and for hire of horse and wagon for the office of the Sergeant at Arms, $600; in all, $22,840.

For police force House Office Building under the Sergeant at Arms, namely: One lieutenant, $1,200; ten privates, at $1,050 each; in all, $11,700.

OFFICE OF DOORKEEPER: Doorkeeper, $5,000; hire of horses and wagons and repairs of same, $1,200, or so much thereof as may be necessary; special employee, John T. Chancey, $1,800; special employee, $1,500; superintenden of reporters' gallery, $1,400; janitor, $1,500; sixteen messengers, at $1,180 each; fourteen messengers on the soldiers' roll, at $1,200 each; fifteen laborers, at $720 each; laborer in the water-closet, $720; laborer, $680; two laborers, known as cloakroom men, at $480 each; eight laborers, known as cloakroom men, two at $720 each, and six at $600 each; female attendant in ladies' retiring room, $800; superintendent of folding room, $2,500; three clerks, at $1,600 each; foreman, $1,800; messenger, $1,200; janitor, $720; laborer, $720; thirty-two folders, at $900 each; two drivers, at $840 each; two chief pages, at $1,200 each; messenger in charge of telephones, $1,200; messenger in charge of telephones (for the minority), $1,200; forty-six pages, during the session, including two riding pages, four telephone pages, press-gallery page, and ten pages for duty at the entrances to the Hall of the House, at $2.50 per day each, $13,800; superintendent of document room, $2,900; assistant superintendent, $2,100; clerk, $1,700; assistant clerk, $1,600; seven assistants, at $1,280 each; assistant, $1,100; janitor, $920; messenger to press room, $1,000; in all, $148,900.

For employment of Joel Grayson in document room, $2,150.

For the following minority employees authorized and named in the resolution adopted by the House of Representatives April tenth, nineteen hundred and eleven, namely: Special employee, $1,800; special messenger and assistant pair clerk, $1,800; special messenger, $1,500; special chief page and pair clerk, $1,800; in all, $6,900.

For the assistant department messenger authorized and named in the resolution adopted by the House of Representatives December seventh, eighteen hundred and ninety-seven, $2,000.

For the special messenger authorized and named in the resolution adopted by the House of Representatives January fifteenth, nineteen hundred, $1,500.

To continue employment and for compensation of the assistant foreman of the folding room, authorized and named in the resolution

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adopted by the House of Representatives February sixth, nineteen hundred, at $3.85 per day, $1,405.25.

To continue the employment of the person named in the resolution of the House adopted June fifth, nineteen hundred, as a laborer, $840.

To continue the employment of the laborer authorized and named in the resolution of the House adopted December nineteenth, nineteen hundred and one, $840.

To continue the employment of the special messenger authorized and named in the resolution of the House adopted April tenth, nineteen hundred and eleven, $1,500.

Successors to any of the employees provided for in the seven preceding paragraphs may be named by the House of Representatives at any time.

For clerk to the conference minority of the House of Representatives, $2,000; assistant clerk, $1,200; janitor, $1,000; in all, $4,200. Said clerk, assistant clerk and janitor to be appointed by the chairman of the conference minority.

OFFICE OF POSTMASTER: Postmaster, $4,000; assistant postmaster, $2,200; registry and money order clerk, $1,500; twelve messengers, including messenger to superintend transportation of mails, at $1,200 each; fourteen messengers, at $100 per month each from December first to March thirty-first, inclusive, four months, $5,600; and one laborer, $720; in all, $28,420.

For hire of horses and mail wagons for carrying the mails, $2,500, or so much thereof as may be necessary.

OFFICIAL REPORTERS: Six official reporters of the proceedings and debates of the House, at $5,000 each; assistant, $2,500; in all, $32,500.

For janitor for rooms of official reporters of debates, at $60 per month, $720.

STENOGRAPHERS TO COMMITTEES: Four stenographers to committees, at $5,000 each; in all, $20,000.

For janitor to rooms of stenographers to committees, at $60 per month, $720.

That wherever the words "during the session" occur in the foregoing paragraphs they shall be construed to mean the one hundred and twenty days from December second, nineteen hundred and twelve, to March thirty-first, nineteen hundred and thirteen, both inclusive.

CLERK HIRE, MEMBERS AND DELEGATES: To pay each Member, Delegate, and Resident Commissioner, for clerk hire, necessarily employed by him in the discharge of his official and representative duties, $1,500 per annum, in monthly installments, $618,975, or so much thereof as may be necessary; and Representatives and Delegates elect to Congress whose credentials in due form of law have been duly filed with the Clerk of the House of Representatives, in accordance with the provisions of section thirty-one of the Revised Statutes of the United States, shall be entitled to payment under this appropriation: *Provided*, That all clerks to Members, Delegates, and Resident Commissioners shall be placed on the roll of employees of the House and be subject to be removed at the will of the Member, Delegate, or Resident Commissioner by whom they are appointed; and any Member, Delegate, or Resident Commissioner may appoint one or more clerks, who shall be placed on the roll as the clerk of such

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Member, Delegate, or Resident Commissioner making such appointments.

CONTINGENT EXPENSES, NAMELY: For wrapping paper, pasteboard, paste, twine, newspaper wrappers, and other necessary materials for folding, for the use of Members of the House, and for use in the Clerk's office and the House folding room, not including envelopes, writing paper, and other paper and materials to be printed and furnished by the Public Printer, upon requisitions from the Clerk of the House, under the provisions of the Act approved January twelfth, eighteen hundred and ninety-five, for the public printing and binding, $10,000.

For furniture, and materials for repairs of the same, $10,000.

For packing boxes, $3 500, or so much thereof as may be necessary.

For miscellaneous items and expenses of special and select committees, exclusive of salaries and labor, unless specifically ordered by the House of Representatives, $75,000.

For stationery for Members of the House of Representatives, Delegates from Territories, and Resident Commissioners, including $5,000 for stationery for the use of the committees and officers of the House, $54,750.

For postage stamps for the Postmaster, $250; for the Clerk, $450; for the Sergeant at Arms, $300; and for the Doorkeeper, $150; in all, $1,150.

LIBRARY OF CONGRESS.

General administration: Librarian of Congress, $6,500; chief assistant librarian, $4 000; chief clerk, $2,500; Librarian's secretary, $1 800; clerk, $1 200; clerk (assistant to chief clerk), $1,000; stenographers and typewriters—one at $1 200, one at $720; messenger, $840; junior messenger, $360; photostat operator, $600; in all, $20,720.

Mail and delivery: Assistant in charge, $1,500; assistants—one at $900, one at $720, junior messenger, $360; in all, $3,480.

Order and accession: Chief of division, $2,500; assistants—one at $1 500, one at $1,200, three at $900 each, two at $720 each, two at $600 each, one at $520; two junior messengers, at $360 each; in all, $11 780.

Catalogue, classification, and shelf: Chief of division, $3,000; chief classifier, $2 000; assistants—four at $1 800 each, seven at $1,500 each, six at $1 400 each, twelve at $1,200 each, six at $1,000 each, fourteen at $900 each, four at $800 each, thirteen at $720 each, three at $600 each, ten at $540 each, four at $480 each; six junior messengers, at $360 each; in all, $87,940.

Binding: Assistant in charge, $1,400; assistant, $900; junior messenger, $360; in all, $2,660.

Bibliography: Chief of division, $3,000; assistants—one at $1,500, two at $900 each, one at $720; stenographer and typewriter, $900; junior messenger, $360; in all, $8 280.

Reading rooms (including evening service) and special collections: Superintendent of reading room, $3,000; assistants—two at $1,800 each, five at $1,200 each, including one in division for the blind (formerly in free public library), two at the charging desk, at $1,080 each, three at $900 each, ten at $720 each, two at $600 each; stenographer and typewriter, $900; attendant, Senate reading room, $900; attendants, Representatives' reading room—one at $900 and one at $720;

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attendants—two in cloak rooms at $720 each, one in Toner Library, $900, one in Washingtonian Library, $900. two for gallery and alcoves, at $480 each; telephone operator, $600; four junior messengers, at $360 each; two watchmen, at $720 each; evening service, five assistants, at $900 each; fifteen assistants, at $720 each; two assistants, at $600 each; in all, $53,460.

Periodical (including evening service): Chief of division, $2,000; chief assistant, $1,500; assistants—two at $900 each, three at $720 each; stenographer and typewriter, $900; two junior messengers, at $360 each; for arrears of sorting and collating and to enable periodical reading room to be opened in the evenings, two assistants, at $720 each; in all $10,520.

Documents: Chief of division, $3,000; assistants—one at $1,400, one at $720; stenographer and typewriter, $900; junior messenger, $360; in all. $6,380.

Manuscript: Chief of division, $3,000; chief assistant, $1,500; assistant, $900; junior messenger. $360; in all. $5,760.

Maps and charts: Chief of division, $3,000; assistants—one at $1,400, two at $900 each, one at $720; junior messenger, $360; in all, $7,280.

Music: Chief of division, $3,000; assistants—one at $1.500, one at $1.000, two at $720 each; junior messenger, $360; in all, $7.300.

Prints: Chief of division, $2,000; assistants—one at $1,400, two at $900 each; junior messenger. $360; in all, $5 560.

Smithsonian deposit: Custodian, $1 500; assistant, $1,400; messenger, $720; junior messenger, $360; in all, $3,980.

Congressional Reference Library: Custodian, $1 500; assistants—one at $1,200, one at $900, one at $720; two junior messengers, at $360 each; in all. $5.040.

Law Library: Law librarian, $3 000; assistants—two at $1,400 each, one at $900. one at $480. one for evening service, $1,500; junior messenger. $360; in all, $9 040.

COPYRIGHT OFFICE, under the direction of the Librarian of Congress: Register of copyrights, $4 000; assistant register of copyrights, $3 000; clerks—three at $2 000 each, two at $1,800 each, seven at $1,600 each, one at $1,500, eight at $1,400 each, ten at $1,200 each. ten at $1,000 each, eighteen at $900 each, two at $800 each, ten at $720 each, four at $600 each, two at $480 each; four junior messengers, at $360 each. Arrears, special service: Three clerks, at $1,200 each; porter, $720; junior messenger, $360; in all, $96 980.

DISTRIBUTION OF CARD INDEXES: For service in connection with the distribution of card indexes and other publications of the Library, including not exceeding $500 for freight charges, expressage, and traveling expenses connected with such distribution, $24,500.

TEMPORARY SERVICES: For special and temporary service, including extra special services of regular employees, at the discretion of the Librarian, $2,000.

CARRIER SERVICE: For service in connection with the Senate and House Office Buildings, $960, or so much thereof as may be necessary.

SUNDAY OPENING: To enable the Library of Congress to be kept open for reference use from two until ten o'clock post meridian on Sundays and legal holidays, within the discretion of the Librarian,

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including the extra services of employees and the services of additional employees under the Librarian, $10,000, or so much thereof as may be necessary.

INCREASE OF LIBRARY OF CONGRESS: For purchase of books for the Library, including payment in advance for subscription books and society publications, and for freight, commissions, and traveling expenses incidental to the acquisition of books by purchase, gift, or exchange, to continue available during the fiscal year nineteen hundred and fourteen, $90,000, together with the unexpended balance of the sum appropriated for this object for the fiscal year nineteen hundred and twelve.

For purchase of books and for periodicals for the law library, under the direction of the Chief Justice, including payment in advance for subscriptions to law periodicals, $3,000;

For purchase of new books of reference for the Supreme Court, to be a part of the Library of Congress, and purchased by the marshal of the Supreme Court, under the direction of the Chief Justice, $2,000;

For purchase of miscellaneous periodicals and newspapers, including payment in advance for subscriptions to the same, $5,000;

In all, $100,000.

CONTINGENT EXPENSES: For miscellaneous and contingent expenses of the Library, stationery, supplies, and all stock and materials directly purchased, miscellaneous traveling expenses, postage, transportation, and all incidental expenses connected with the administration of the Library and the Copyright Office, which sum shall be so apportioned as to prevent a deficiency therein, $6,800.

CUSTODY, CARE, AND MAINTENANCE OF LIBRARY BUILDING AND GROUNDS: Superintendent of the Library building and grounds, $5,000; chief clerk, $2,000; clerks—one at $1,600, one at $1,400, one at $1,000; messenger; assistant messenger; telephone switchboard operator; assistant telephone switchboard operator; captain of watch, $1,400; lieutenant of watch, $1,000; sixteen watchmen, at $720 each; carpenter, painter, and foreman of laborers, three in all, at $900 each; fourteen laborers, at $480 each; two attendants in ladies' room, at $480 each; four check boys, at $360 each; mistress of charwomen, $425; assistant mistress of charwomen, $300; forty-seven charwomen; chief engineer, $1,500; assistant engineers—one at $1,200, three at $900 each; electrician, $1,200; machinists—one at $1,000, one at $900; two wiremen and one plumber, at $900 each; three elevator conductors and ten skilled laborers, at $720 each; in all, $72,185.

For extra services of employees and additional employees under the superintendent of Library building and grounds to provide for the opening of the Library building from two until ten o'clock post meridian on Sundays and legal holidays, $2,800.

For fuel, lights, repairs, miscellaneous supplies, electric and steam apparatus, city directory, stationery, mail and delivery service, and all incidental expenses in connection with the custody, care, and maintenance of said building and grounds, $14,000.

For furniture, including partitions, screens, shelving, and electrical work pertaining thereto, $10,000.

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BOTANIC GARDEN.

For superintendent, $1,800.

For assistants and laborers, under the direction of the Joint Library Committee of Congress, $14,593.75.

For procuring manure, soil, tools, fuel, purchasing trees, shrubs, plants and seeds; and for services, materials, and miscellaneous supplies, and contingent expenses in connection with repairs and improvements to Botanic Gardens, under direction of the Joint Library Committee of Congress, $6,500.

EXECUTIVE.

For compensation of the President of the United States, $75,000.

For compensation of the Vice President of the United States, $12,000.

For the following in the office of the President of the United States: Secretary, at the rate of $7,500 per annum until March fourth, nineteen hundred and thirteen, and at the rate of $6,000 per annum on and after March fourth, nineteen hundred and thirteen; executive clerk, $5,000; chief clerk, $4,000; appointment clerk, $3,500; record clerk, $2,500; two expert stenographers, at $2,500 each; accountant, $2,500; two correspondents, at $2,250 each; disbursing clerk, $2,000; clerks—three at $2,000 each, six of class four, two of class three, five of class two; two of class one; one clerk-messenger, $1,000; two messengers, at $900 each; two messengers; three laborers, at $720 each; in all, $72,056.66: *Provided*, That employees of the executive departments and other establishments of the executive branch of the Government may be detailed from time to time to the office of the President of the United States, for such temporary assistance as may be necessary.

For contingent expenses of the Executive Office, including stationery therefor, as well as record books, telegrams, telephones, books for library, furniture and carpets for offices, horses, carriages, harness, automobiles, expenses of stable, including labor, and miscellaneous items, to be expended in the discretion of the President, $25,000.

CIVIL SERVICE COMMISSION.

For commissioner, acting as president of the commission, $4,500; two commissioners, at $4,000 each; chief examiner, $3,000; secretary, $2,500; assistant chief examiner, $2,250; three chiefs of division, at $2,000 each; examiner, $2,400; three examiners, at $2,000 each; four examiners, at $1,800 each; clerks—four of class four, twenty-one of class three, twenty-nine of class two, thirty-eight of class one, thirty-two at $1,000 each, twenty clerks, at $900 each; messenger; assistant messenger; engineer, $840; telephone switchboard operator; two firemen, at $720 each; two watchmen; two elevator conductors, at $720 each; three laborers; three messenger boys, at $360 each; two charwomen; in all, $229,830.

FIELD FORCE: For two district secretaries, at $2,400 each; one district secretary, $2,200; four district secretaries, at $2,000 each; two district secretaries, at $1,800 each; clerks—one of class four, one

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of class three, one of class one, seven at $1,000 each, six at $900 each, five at $840 each, two at $720 each; messenger; messenger boy, $480; in all, $42,560.

No detail of clerks or other employees from the executive departments or other Government establishments in Washington, District of Columbia, to the Civil Service Commission, for the performance of duty in the District of Columbia, shall be made for or during the fiscal year nineteen hundred and thirteen. The Civil Service Commission shall, however, have power in case of emergency to transfer or detail any of its employees herein provided for to or from its office force, field force, or rural carrier examining board.

EXPERT EXAMINERS: For the employment of expert examiners not in the Federal service to prepare questions and rate papers in examinations on special subjects for which examiners within the service are not available, $2,000.

ELECTRIC CONDUIT AND CONNECTIONS: For electric conduit and connections, connecting the commission's building with the State, War, and Navy Department Building, $4,000.

For necessary traveling expenses, including those of examiners acting under the direction of the commission, and for expenses of examinations and investigations held elsewhere than at Washington, $12,000.

Members of the Civil Service Commission and its duly authorized representatives are hereafter authorized to administer oaths to witnesses in any matter depending before the Civil Service Commission.

DEPARTMENT OF STATE.

For Secretary of State, $12,000; Assistant Secretary, $5,000; Second and Third Assistant Secretaries, at $4,500 each; director of the Consular Service, $4,500; counselor for the Department of State, to be appointed by the President, by and with the advice and consent of the Senate, $7,500; eight officers to aid in important drafting work, four at $4,500 each and four at $3,000 each, to be appointed by the Secretary of State, any one of whom may be employed as chief of division of far eastern, Latin American, near eastern, or European affairs, or upon other work in connection with foreign relations; assistant solicitor, $3,000; law clerk, $2,500; clerks—two of class three, two of class one, two at $1,000 each; three assistant messengers; chief clerk, $3,000; two Assistant Solicitors of the Department of State, to be appointed by the Secretary of State, at $3,000 each; law clerk and assistant, to be selected and appointed by the Secretary of State, to edit the laws of Congress and perform such other duties as may be required of them, at $2,500 and $1,500, respectively; two chiefs of bureaus, at $2,250 each; five chiefs of bureaus, at $2,100 each; two translators, at $2,100 each; additional to Chief of Bureau of Accounts as disbursing clerk, $200; private secretary to the Secretary, $2,500; clerk to the Secretary, $1,800; clerks—sixteen of class four, sixteen of class three, twenty-five of class two, forty-one of class one, three of whom shall be telegraph operators, sixteen at $1,000 each, nineteen at $900 each; chief messenger, $1,000; five messengers; twenty-two assistant messengers; messenger boy, $420; packer, $720; four laborers, at $600 each;

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telephone switchboard operator; assistant telephone switchboard operator; in all, $317,560.

For two clerks to be employed in the Department of State and to be charged with the distribution of information among the diplomatic missions, one at the rate of $1,800 per annum and one at the rate of $1,600 per annum; in all, $3,400.

CONTINGENT EXPENSES, DEPARTMENT OF STATE: For stationery, furniture, fixtures, typewriters, including exchange of the same, repairs, and material for repairs, $11,000.

For books and maps, and periodicals, domestic and foreign, including the payment in advance for subscriptions to the same, for the library, $2,000.

For services of lithographer and necessary materials for the lithographic press, $1,500.

For miscellaneous expenses, including the purchase, care, and subsistence of horses, to be used only for official purposes, repair of vehicles and harness, telegraph and electrical apparatus and repairs to the same, street car tickets not exceeding $100, and other items not included in the foregoing, $7,000.

For purchase of an automobile mail wagon for official use of the Department of State, and maintenance of the same for fiscal year nineteen hundred and thirteen, $1,000.

For rent of buildings in the District of Columbia for the use of the Department of State, $11,720.

TREASURY DEPARTMENT.

OFFICE OF THE SECRETARY: Secretary of the Treasury, $12,000; three Assistant Secretaries of the Treasury, at $5,000 each; clerk to the Secretary, $2,500; executive clerk, $2,400; stenographer, $1,800; three private secretaries, one to each Assistant Secretary, at $1,800 each; Government actuary, under control of the Treasury, $2,250; clerks—one of class four, four of class three, two of class two; chief messenger, $1,100; two assistant chief messengers, at $1,000 each; three messengers, at $900 each; three messengers; in all, $60,670.

Office of chief clerk and superintendent: Assistant and chief clerk, including $300 as superintendent of Treasury building, who shall be the chief executive officer of the department and who may be designated by the Secretary of the Treasury to sign official papers and documents during the temporary absence of the Secretary and the assistant secretaries of the department, $4,000; assistant superintendent of Treasury building, $2,500; clerks—four of class four, one of class three, two of class two, two of class one, one at $1,000, one at $900; two messengers; three assistant messengers; messenger boy, $360; storekeeper, $1,200; telegraph operator, $1,200; telephone operator and assistant telegraph operator, $1,200; chief engineer, $1,400; three assistant engineers, at $1,000 each; eight elevator conductors, at $720 each, and the use of laborers as relief elevator conductors during rush hours is authorized; eight firemen; coal passer, $500; locksmith and electrician, $1,400; captain of the watch, $1,400; two lieutenants of the watch, at $900 each; sixty-five watchmen; foreman of laborers, $1,000; two skilled laborers, at $840 each; two skilled laborers, at $720 each; wiremen—one at $1,000, one at

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$900; thirty-four laborers; ten laborers, at $500 each; one plumber, and one painter, at $1,100 each; plumber's assistant, $720 (in lieu of watchman-fireman, $720, Cox Building); eighty-five charwomen; carpenters—two at $1,000 each, one at $720. For the Winder Building: Engineer, $1,000; three firemen; conductor of elevator, $720; four watchmen; three laborers, one of whom, when necessary, shall assist and relieve the conductor of elevator; laborer, $480; and eight charwomen. For the Cox Building, seventeen hundred and nine New York Avenue: Two watchmen-firemen, at $720 each; and one laborer; in all, $170,760.

General Supply Committee: Superintendent of supplies, $2,000, and two clerks of class two; in all, $4,800.

Division of Bookkeeping and Warrants: Chief of division, $3,500; assistant chief of division, $2,700; estimate and digest clerk, $2,500; two principal bookkeepers, at $2,100 each; twelve bookkeepers, at $2,000 each; clerks—fourteen of class four, six of class three, six of class two, three of class one; messenger; three assistant messengers; in all, $86,700.

Division of Customs: Chief of division, $4,000; assistant chief of division, $3,000; law clerks—five at $2,500 each, two at $2,000 each; clerks—three of class four, three of class three, three of class two, six of class one, five at $1,000 each; messenger; assistant messenger; messenger boy, $360; in all, $51,620.

Division of Appointments: Chief of division, $3,000; assistant chief of division, $2,000; executive clerk, $2,000; law and bond clerk, $2,000; clerks—three of class four, four of class three, five of class two, six of class one, four at $1,000 each, one at $900; messenger; two assistant messengers; in all, $42,180.

Division of Public Moneys: Chief of division, $3,000; assistant chief of division, $2,000; clerks—five of class four, four of class three, four of class two, one of class one, one at $1,000; messenger; assistant messenger; in all, $29,760.

Division of Loans and Currency: Chief of division, $3,500; assistant chief of division, $2,700; custodian of paper, $2,250; bond and interest clerk, $2,000 (in lieu of division chief at $2,000 transferred from register's office); clerks—five of class four (one transferred from register's office), four of class three (two transferred from register's office), five of class two (three transferred from rgeister's office), five of class one (two dropped and four transferred from register's office), one clerk, $1,000, eighteen at $900 each; assorter of bonds, $800 (transferred from register's office); twelve expert money counters, at $720 each; messenger; three assistant messengers (one transferred from register's office); eight laborers; in all, $73,770.

Division of Revenue-Cutter Service: Assistant chief of division, $2,400; chief clerk, $2,000; law and contract clerk, $1,800; clerks—one of class four, four of class three, one of class two, three of class one, four at $1,000 each, three at $900 each; messenger; laborer; in all, $27,600.

Division of Printing and Stationery: Chief of division, $2,500; assistant chief of division, $2,000; clerks—four of class four, three of class three, three of class two, three of class one, one at $1,000, one at $900; bookbinder, $1,250; three messengers; assistant messenger; two laborers; messenger boy, $360; in all, $32,370.

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Division of Mail and Files: Superintendent of Mail, $2,500; registry clerk, $1,800; distributing clerk, $1,400; clerks—one of class two; one of class one; one at $1,000; document clerk, $1,000; mail messenger, $1,000; two assistant messengers; messenger boy, $360; in all, $13,100.

Division of special agents: Assistant chief of division, $2,400; clerks—one of class three, one of class two, four of class one, two at $900 each; messenger; in all, $12,840.

Office of disbursing clerk: Disbursing clerk, $3,000; deputy disbursing clerk, $2,750; clerks—three of class four, two of class three (one transferred from office of Auditor for War Department), three of class two (one transferred from office of Auditor for Interior Department), two of class one (one transferred from office of Auditor for Interior Department), clerk, $1,000; messenger; in all, $22,790.

Office of the Supervising Architect: Supervising Architect, $5,000; executive officer, $3,250; chief constructor (formerly superintendent of drafting and constructing division), $3,000; chief computer (formerly superintendent of computing division), $2,750; chief of files and records division (formerly chief of law and records division), $2,500; chief of accounts division, $2,500; chief of maintenance division (formerly chief of inspection division), $2,500; chief mechanical and electrical engineer, $2,750; four technical clerks, at $1,800 each; clerks—seven of class four, additional to one clerk of class four as bookkeeper, $100, nine of class three, five of class two, one of class one; foreman of duplicating gallery, $1,800; four messengers; assistant messenger; one laborer; four inspectors, at $2,190 each; inspector, $1,800; in all, $83,850.

For the following now authorized and payable from general appropriations, namely: For chief of technical division, $3,000; assistant constructor, $2,750; assistant chief of files and record division, $2,250; chief structural engineer, $2,750; assistant chief structural engineer, $2,400; inspectors of supplies—one at $2,300, one at $1,800; inspectors—five at $2,300 each, three at $2,000 each, one at $1,800; photographer, $2,000; six administrative clerks, at $2,000 each; clerks—one of class four, four at $1,700 each, four of class three, six at $1,500 each, eight of class two, eight at $1,300 each, thirteen of class one, four at $1,100 each, six at $1,000 each, three at $900 each, two at $840 each; duplicating paper chemist, $1,200; foreman vault, safe and lock shop, $1,100; assistant messenger; messenger boys—three at $480 each, two at $360 each; skilled laborers—four at $1,000 each, seven at $960 each, one at $900, one at $840; laborer, $600; in all, $144,770, which shall be paid out of the appropriation made in the sundry civil appropriation act for the fiscal year nineteen hundred and thirteen for "General Expenses of Public Buildings."

For the fiscal year nineteen hundred and fourteen and annually thereafter specific estimates shall be submitted for salaries for all personal services of the foregoing character required in the office of the Supervising Architect of the Treasury, and except as appropriations may be made thereunder no such personal services shall be employed in said office at Washington, District of Columbia.

Office of Comptroller of the Treasury: Comptroller of the Treasury, $6,000; Assistant Comptroller of the Treasury, $4,500; chief clerk, $2,500; chief law clerk, $2,500; nine law clerks revising accounts and briefing opinions—one at $2,100, and eight at $2,000

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each; expert accountants—six at $2,000 each; private secretary, $1,800; clerks—eight of class four, three of class three, one of class two; stenographer and typewriter, $1,400; typewriter-copyist, $1,000; two messengers; assistant messenger; one laborer; in all, $73,460.

Hereafter the administrative examination of all public accounts, preliminary to their audit by the accounting officers of the Treasury, shall be made as contemplated by the so-called Dockery Act, approved July thirty-first, eighteen hundred and ninety-four, and all vouchers and pay rolls shall be prepared and examined by and through the administrative heads of divisions and bureaus in the executive departments and not by the disbursing clerks of said departments, except those vouchers heretofore prepared outside of Washington may continue to be so prepared and the disbursing officers shall make only such examination of vouchers as may be necessary to ascertain whether they represent legal claims against the United States.

Office of Auditor for Treasury Department: Auditor, $4,000; chief clerk and chief of division, $2,250; law clerk, $2,000; two chiefs of division, at $2,000 each; clerks—eighteen of class four, fifteen of class three, thirteen of class two, thirty-one of class one, ten at $1,000 each, four at $900 each; three assistant messengers; three laborers; in all, $141,790.

Office of Auditor for War Department: Auditor, $4,000; chief clerk and chief of division, $2,250; law clerk, $2,000; chief of division of accounts, $2,500; two chiefs of division, at $2,000 each; clerks—twenty-four of class four, forty-nine of class three (one transferred to disbursing clerk), sixty-two of class two, fifty of class one, ten at $1,000 each, five at $900 each; skilled laborer, $900; messenger; five assistant messengers; ten laborers; messenger boy, $480; in all, $310,070.

Office of Auditor for Navy Department: Auditor, $4,000; chief clerk and chief of division, $2,250; law clerk, $2,000; chief of division, $2,000; assistant chief of division, $2,000; clerks—eleven of class four, twenty of class three, sixteen of class two, twenty-three of class one, eleven at $1,000 each, nine at $900 each; messenger; assistant messenger; three laborers; in all, $136,690.

Office of Auditor for Interior Department: Auditor, $4,000; chief clerk and chief of division, $2,250; law clerk, $2,000; two chiefs of division, at $2,000 each; clerks—fourteen of class four, sixteen of class three, twenty-eight of class two (one transferred to office of disbursing clerk), twenty-five of class one (one transferred to office of disbursing clerk), eleven at $1,000 each, one at $900; two messengers; three assistant messengers; one laborer; in all, $148,650.

Office of Auditor for State and other Departments: Auditor, $4,000; chief clerk and chief of division, $2,250; law clerk, $2,000; two chiefs of division, at $2,000 each; clerks—sixteen of class four, one of class four (special examiner), seventeen of class three, thirteen of class two, thirteen of class one, five at $1,000 each, five at $900 each; one messenger; two assistant messengers; two laborers; in all, $116,950.

Office of Auditor for Post Office Department: Auditor, $5,000; assistant and chief clerk, $3,000; law clerk, $3,000; expert accountant, $2,750; four chiefs of division, at $2,250 each; four assistant chiefs of division, at $2,000 each; four principal bookkeepers,

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at $2,000 each; clerks—twenty-seven of class four, fifty-one of class three, sixty-two of class two, ninety-one of class one, fifty-nine at $1,000 each; fifty-five at $900 each; skilled laborer, $1,000; skilled laborers (formerly money-order assorters)—fifteen at $840 each, twenty-five at $780 each, eighty-four at $720 each, forty-nine at $660 each; female laborer, $660; eight skilled laborers, at $840 each; eleven skilled laborers, at $720 each; messenger boys—four at $480 each, five at $360 each; nine male laborers, at $660 each; forewoman, $480; and nineteen charwomen; in all, $629,370.

Provided, That the Secretary of the Treasury may, during the fiscal year nineteen hundred and thirteen, in his discretion, diminish the number of positions of the several grades below the grade of clerk at $1,000 per annum in the office of the Auditor for the Post Office Department and use the unexpended balances of the appropriations for the positions so diminished as a fund to pay, on a piece-rate basis, to be fixed by the Secretary of the Treasury, the compensation of such number of employees as may be necessary to tabulate, by the use of mechanical devices, the accounts and vouchers of the postal service.

Postal Savings System, Audit of the Accounts of, Office of Auditor for the Post Office Department.—The Secretary of the Treasury may employ such number of clerks and employees of the several classes and at the several rates of compensation recognized by law, and expend such sums for contingent and miscellaneous items, as may be necessary, in his judgment, to audit the accounts of the postal savings system in the Office of the Auditor for the Post Office Department: *Provided*, That the money required to pay such clerks and employees, and contingent and miscellaneous items, not exceeding $50,000 for the fiscal year nineteen hundred and thirteen, shall be advanced to the Secretary of the Treasury at regular intervals out of any available appropriation for the establishment, maintenance, and extension of postal-savings depositories: *Provided further*, That estimates hereunder shall be submitted in detail for the fiscal year nineteen hundred and fourteen and annually thereafter.

Office of the Treasurer: Treasurer of the United States, $8,000; Assistant Treasurer, $3,600; Deputy Assistant Treasurer, $3,200; cashier, $3,600; assistant cashier, $3,000; chief clerk, $2,500; five chiefs of division, at $2,500 each; assistant chief of division, $2,250; vault clerk, $2,500; principal bookkeeper, $2,500; assistant bookkeeper, $2,100; two tellers, at $2,500 each; two assistant tellers, at $2,250 each; vault clerk, Bond Division, $2,000; clerk for the Treasurer, $1,800; clerks—twenty-four of class four, eighteen of class three, fifteen of class two, thirty-three of class one, eighteen at $1,000 each, twenty-four at $900 each; coin clerk, $1,400; expert counters—twenty-nine at $900 each, fifteen at $800 each, forty at $720 each, seventeen at $700 each; mail messenger, $840; eight messengers; seven assistant messengers; twenty-three laborers; six messenger boys, at $360 each; compositor and pressman, $1,600; pressman, $1,400; silver piler, $1,000; in all, $345,390.

For the force employed in redeeming the national currency (to be reimbursed by the national banks), namely: Superintendent, $3,500; teller, $2,500; bookkeeper, $2,400; assistant teller and assistant bookkeeper, at $2,000 each; clerks—five of class four, seven of class three, nine of class two, twenty-five of class one; expert counters—

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ten at $1,200 each, fifty-two at $1,000 each, forty-two at $900 each; thirty-two at $800 each, eighteen at $700 each; two messengers, four assistant messengers; four charwomen; in all, $220,720.

Salaries, force employed on work of the Postal Savings System in the office of the Treasurer of the United States (reimbursable): The Secretary of the Treasury may employ such number of clerks and employees of the several classes and at the several rates of compensation recognized by law, and expend such sums for contingent and miscellaneous items, as may be necessary, in his judgment, to transact the business of the Postal Savings System in the office of the Treasurer of the United States: *Provided*, That the money required to pay such clerks and employees, and contingent and miscellaneous items, not exceeding $18,000 for the fiscal year nineteen hundred and thirteen, shall be advanced to the Secretary of the Treasury at regular intervals out of any available appropriation for the establishment, maintenance, and extension of postal-savings depositories: *Provided further*, That estimates hereunder shall be submitted in detail for the fiscal year nineteen hundred and fourteen, and annually thereafter.

For repairs to canceling and cutting machines in the office of the Treasurer of the United States, $200.

Office of the Register of the Treasury: Register, $4,000; Assistant Register, $2,500; chief of division, $2,000 (one transferred to Loans and Currency Division); clerks—three of class four (one transferred to Loans and Currency Division); three of class three (two transferred to Loans and Currency Division and one dropped); two of class two (three transferred to Loans and Currency Division); five of class one (four transferred to Loans and Currency Division); four, at $1,000 each; eighteen, at $900 each; messenger; assistant messenger (one transferred to Loans and Currency Division); and two laborers; in all, $50,580.

Office of the Comptroller of the Currency: Comptroller of the Currency, $5,000; Deputy Comptroller, $3,500; Deputy Comptroller, $3,000; chief clerk, $2,500; chiefs of division—one at $2,500, two at $2,200 each; bookkeeper, $2,000; assistant bookkeeper, $2,000; clerks—eight of class four, additional to bond clerk, $200, thirteen of class three, thirteen of class two, twenty-six of class one, thirteen at $1,000 each; seven at $900 each; stenographer, $1,600; six counters, at $840 each; messenger; five assistant messengers; three laborers; two messenger boys, at $360 each; in all, $142,780.

For expenses of the national currency (to be reimbursed by the national banks), namely: Superintendent, $2,500; teller, $2,000; clerks—one of class four, one of class three, four of class two, five of class one, four at $1,000 each, five at $900 each; engineer, $1,000; twelve expert counters, at $840 each; three counters, at $700 each; assistant messenger; fireman; messenger boy, $360; two charwomen; in all, $43,460.

For expenses of special examinations of national banks and bank plates, of keeping macerator in Treasury Building in repair, and for other incidental expenses attending the working of the macerator, and for procuring information relative to banks other than national, $4,800.

Office of the Commissioner of Internal Revenue: Commissioner of Internal Revenue, $6,000; deputy commissioner, $4,000;

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deputy commissioners, $3,600; chemist, $2,500; first assistant chemist, $1,800; second assistant chemist, $1,600; third assistant chemist, $1,400; three heads of divisions, at $2,500 each; six heads of divisions, at $2,250 each; superintendent of stamp vault, $2,000; private secretary, $1,800; clerks—two at $2,000 each; twenty-nine of class four, twenty-five of class three, thirty-seven of class two, thirty-seven of class one; thirty-two, at $1,000 each; forty-two, at $900 each; three messengers; twenty-one assistant messengers; and sixteen laborers; in all, $336,100.

For the following, formerly authorized and paid from appropriation for "withdrawal of denatured alcohol," namely: Chief chemist, $3,000; first assistant chemist, $1,800; clerks—one of class four, one of class three, four of class two, three of class one; one messenger; in all, $18,240.

For stamp agent, $1,600; stamp agent, $900; counter, $900; in all, $3,400, the same to be reimbursed by the stamp manufacturers.

Office of Life-Saving Service: General Superintendent of the Life-Saving Service, $4,000, and $500 additional while the office is held by the present incumbent; assistant general superintendent, $2,500; principal clerk, $2,000; title and contract clerk, $2,000; topographer and hydrographer, $1,800; civil engineer, $1,800; draftsman, $1,500; clerks—three of class four, five of class three, four of class two, five of class one, three at $1,000 each, two at $900 each; messenger; assistant messenger; laborer; in all, $48,120.

Bureau of Engraving and Printing: Director, $6,000; assistant director, $3,500; chief of division of assignments and reviews, $3,000; chief clerk, $2,500; medical and sanitary officer, $2,000; stenographer, $1,800; clerks—one of class four, six of class three, nine of class two, nine of class one, eight at $1,000 each, ten at $900 each, six at $840 each, fifteen at $780 each; disbursing agent, $2,400; storekeeper, $1,600; assistant storekeeper, $1,000; clerk in charge of purchases and supplies, $2,000; nine attendants, at $600 each; helpers—two at $900 each, two at $720 each, two at $600 each; three messengers; seven assistant messengers; captain of the watch, $1,400; two lieutenants of the watch, at $900 each; forty-six watchmen; two forewomen of charwomen, at $540 each; nineteen day charwomen, at $400 each; fifty-two morning and evening charwomen, at $300 each; foreman of laborers, $900; four laborers; seventy-five laborers, at $540 each; in all, $216,380; and no other fund appropriated by this or any other Act shall be used for services, in the Bureau of Engraving and Printing, of the character specified in this paragraph, except in cases of emergency arising after the passage of this Act, and then only on the written approval of the Secretary of the Treasury.

Secret Service Division: Chief, $3,600; assistant chief, who shall discharge the duties of chief clerk, $3,000; clerks—one of class four, one of class three, two of class two, one of class one, one at $1,000; assistant messenger; in all, $15,720.

Office of the Director of the Mint: Director, $5,000; examiner, $3,000; computer and adjuster of accounts, $2,500; assayer, $2,200; clerks—two of class four, two of class three, one of class one; private secretary, $1,400; messenger; assistant in laboratory, $1,200; assistant messenger; skilled laborer, $720; in all, $25,580.

For freight on bullion and coin, by registered mail or otherwise, between mints and assay offices, $25,000.

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For contingent expenses of the Bureau of the Mint, to be expended under the direction of the director, namely: For assay laboratory chemicals, fuel, materials, balances, weights, and other necessaries, including books, pamphlets, periodicals, specimens of coins, ores, and incidentals, $800.

For examinations of mints, expense in visiting mints for the purpose of superintending the annual settlements, and for special examinations, and for the collection of statistics relative to the annual production and consumption of the precious metals in the United States, $4,000.

OFFICE OF SURGEON GENERAL OF PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE: Surgeon General, $5,000; chief clerk, $2,000; private secretary to the Surgeon General, $1,800; clerks—three of class four, two of class three, six of class two, one of whom shall be translator, seven of class one, three at $900 each; messenger; three assistant messengers; two laborers, at $540 each; in all, $40,980.

CONTINGENT EXPENSES, TREASURY DEPARTMENT: For the following sums, which shall be so apportioned as to prevent deficiencies therein, namely:

For stationery for the Treasury Department and its several bureaus and offices, $50,000, and in addition thereto sums amounting to $86,150, shall be deducted from other appropriations made for the fiscal year nineteen hundred and thirteen as follows: Contingent expenses, Independent Treasury, $7,200; contingent expenses, mint at Philadelphia, $500; contingent expenses, mint at San Francisco, $300; contingent expenses, mint at Denver, $300; contingent expenses, assay office at New York, $500; materials and miscellaneous expenses, Bureau of Engraving and Printing, $3,300; suppressing counterfeiting and other crimes, $400; expenses of Revenue-Cutter Service, $2,100; Public Health and Marine-Hospital Service, $1,850; Quarantine Service, $590; preventing the spread of epidemic diseases, $260; Life-Saving Service, $1,400; fuel, lights, and water for public buildings, $4,750; general expenses of public buildings, $3,550; collecting the revenue from customs, $37,300; miscellaneous expenses of collecting internal revenue, $18,700; and for expenses of collecting the corporation tax, $3,150; and said sums so deducted shall be credited to and constitute, together with the first-named sum of $50,000, the total appropriation for stationery for the Treasury Department and its several bureaus and offices for the fiscal year nineteen hundred and thirteen.

For postage required to prepay matter addressed to Postal Union countries, and for postage for the Treasury Department, $1,000.

For materials for the use of the bookbinder located in the Treasury Department, $250.

For newspaper clippings, law books, city directories, and other books of reference relating to the business of the department, $1,000.

For investigation and experimentation and to secure better methods of administration, with a view to increased efficiency or to greater economy in the expenditure of public money, including necessary traveling expenses, in connection with special work, or obtaining of better administrative methods in any branch of the service within or under the Treasury Department, including the temporary employment of agents, stenographers, accountants, or other expert services either within or without the District of Columbia, $20,000.

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For freight, expressage, telegraph and telephone service, $7,000.

For rent of buildings, $52,000.

For purchase, exchange, maintenance, and repair of motor trucks, and maintenance of horses and carriages, to be used for official purposes only, including not exceeding $6,000 for the purchase of two motor trucks and one motor delivery wagon, $8,000.

For purchase of file holders and file cases, $4,000.

For purchase of coal, wood, engine oils and grease, grates, grate baskets and fixtures, blowers, coal hods, coal shovels, pokers, and tongs, $12,000.

For purchase of gas, electric current for lighting and power purposes, gas and electric-light fixtures, electric-light wiring and material, candles, candlesticks, droplights and tubing, gas burners, gas torches, globes, lanterns, and wicks, $17,000.

For washing and hemming towels, for the purchase of awnings and fixtures, window shades and fixtures, alcohol, benzine, turpentine, varnish, baskets, belting, bellows, bowls, brooms, buckets, brushes, canvas, crash, cloth, chamois skins, cotton waste, door and window fasteners, dusters; flower-garden, street, and engine hose; lace leather, lye, nails, oils, plants, picks, pitchers, powders, stencil plates, hand stamps and repairs of same, stamp ink, spittoons, soap, matches, match safes, sponges, tacks, traps, thermometers, toilet paper, tools, towels, towel racks, tumblers, wire, zinc, and for blacksmithing, repairs of machinery, removal of rubbish, sharpening tools, street car tickets not exceeding $250, advertising for proposals, and for sales at public auction in Washington, District of Columbia, of condemned property belonging to the Treausry Department, payment of auctioneer fees, and purchase of other absolutely necessary articles, $11,500.

For purchase of labor-saving machines, including the purchase and exchange of registering accountants, numbering machines, and other machines of a similar character, including time stamps for stamping date of receipt of official mail and telegrams, and repairs thereto, $8,000.

For shelving and transferring records and files from and to the Treasury Building and its annexes in Washington, $500.

For purchase of carpets, carpet border and lining, linoleum, mats, rugs, matting, and repairs, and for cleaning, cutting, making, laying, and relaying of the same, by contract, $3,000.

For purchase of boxes, book rests, chairs, chair caning, chair covers, desks, bookcases, clocks, cloth for covering desks, cushions, leather for covering chairs and sofas, locks, lumber, screens, tables, typewriters, including the exchange of same, wardrobe cabinets, washstands, water coolers and stands, and for replacing other worn and unserviceable articles, $10,000.

For maintenance of the automatic fire-alarm systems in the Treasury and Winder Buildings, $2,166.

Electrical burglar-alarm devices, Treasury Building, Washington, District of Columbia: For installation and maintenance of electrical burglar-alarm devices in the Treasury Building at Washington, District of Columbia, $720.

CONTINGENT AND MISCELLANEOUS EXPENSES, OFFICE OF AUDITOR FOR THE POST OFFICE DEPARTMENT, NAMELY: For miscellaneous items, including purchase, repair, and exchange of typewriting

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machines, of which not exceeding $375 may be used for rental of telephones, and not exceeding $300 may be used for the purchase of law books, books of reference, and city directories, $3,500;

For furniture and repairs, $1,500;

For purchase, exchange, and repair of adding machines, $1,000.

In all, $6,000, to be expended under the direction of the Auditor for the Post Office Department under rules and regulations to be prescribed by the Secretary of the Treasury and to operate as a specific exception of the said office from the appropriation for contingent expenses, Treasury Department, unless otherwise provided by law.

For the purchase of tabulating equipment for use in auditing accounts and vouchers of the postal service, including exchange, repairs, miscellaneous expenses of installation, cards and filing devices, $81,700, to be expended under the direction of the Auditor for the Post Office Department under rules and regulations to be prescribed by the Secretary of the Treasury: *Provided*, That not exceeding $16,800 may be expended for the rental of tabulating and card-sorting machines.

COLLECTING INTERNAL REVENUE.

For salaries and expenses of collectors of internal revenue, and deputy collectors, and surveyors, and clerks, messengers, and janitors in internal-revenue offices, $2,100,000: *Provided*, That no part of this amount be used in defraying the expenses of any officer, designated above, supœnaed by the United States court to attend any trial before a United States court or preliminary examination before any United States commissioner, which expenses shall be paid from the appropriation for "Fees of witnesses, United States courts."

On and after October first, nineteen hundred and twelve, the whole number of collection districts for the collection of internal revenue and the whole number of collectors of internal revenue shall not exceed sixty-three.

For salaries and expenses of forty revenue agents provided for by law, and fees and expenses of gaugers, salaries and expenses of storekeepers and storekeeper-gaugers, $2,565,000.

For rent of offices outside of the District of Columbia, telephone service, and other miscellaneous expenses incident to the collection of internal revenue, and for the purchase of necessary books of reference and periodicals for the chemical laboratory and law library, at a cost not to exceed $500, and reasonable expenses for not exceeding sixty days immediately following the injury of field officers or employees in the Internal-Revenue Service while in line of duty, of medical attendance, surgeon's and hospital bills made necessary by reason of such injury, and for horses crippled or killed while being used by officers in making raids, not exceeding $150 for any horse so crippled or killed, $75,000.

For expenses of collecting the corporation tax authorized by the tariff Act approved August fifth, nineteen hundred and nine, $150,000.

For classifying, indexing, exhibiting, and properly caring for the returns of all corporations required by section thirty-eight of the tariff Act approved August fifth, nineteen hundred and nine, including the employment in the District of Columbia of such clerical and other personal services and for rent of such quarters as may be neces-

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sary, $30,000: *Provided,* That any and all such returns shall be open to inspection only upon the order of the President, under rules and regulations to be prescribed by the Secretary of the Treasury and approved by the President.

INDEPENDENT TREASURY.

OFFICE OF ASSISTANT TREASURER AT BALTIMORE: Assistant treasurer, $4,500; cashier, $2,500; paying teller, $2,000; receiving teller, $1,900; exchange teller, $1,800; vault clerk, $1,800; two clerks, at $1,600 each; three clerks, at $1,400 each; four clerks, at $1,200 each; five clerks, at $1,000 each; messenger, $840; three watchmen, at $720 each; in all, $34,700.

OFFICE OF ASSISTANT TREASURER AT BOSTON: Assistant treasurer, $5,000; cashier, $2,500; paying teller, $2,500; clerk, $2,200; vault clerk, $2,000; receiving teller, $2,000; redemption teller, $1,800; five clerks, at $1,600 each; clerk, $1,500; one clerk, $1,400; four clerks, at $1,200 each; three clerks, $1,100 each; five clerks, at $1,000 each; clerk, $900; chief guard, $1,100; three watchmen, at $850 each; laborer and guard, $720; in all, $47,270.

OFFICE OF ASSISTANT TREASURER AT CHICAGO: Assistant treasurer, $5,000; cashier, $3,000; vault clerk, $2,250; paying teller, $2,500; assorting teller, $2,000; redemption teller, $2,000; change teller, $2,000; receiving teller, $2,000; clerk, $1,600; bookkeeper, $1,800; two bookkeepers, at $1,500 each; clerk, $1,600; clerk, $1,750; three clerks, at $1,500 each; six clerks, at $1,500 each; twenty-two clerks, at $1,200 each; clerk, $900; hall man, $1,100; messenger, $840; three watchmen, at $720 each; janitor, $720; in all, $76,120.

OFFICE OF ASSISTANT TREASURER AT CINCINNATI: Assistant treasurer, $4,500; cashier, $2,250; paying teller, $2,000; receiving teller, $1,800; four clerks, at $1,200 each; two clerks, at $1,300 each; vault clerk, $1,800; bookkeeper, $1,800; clerk, $1,200; two clerks, at $1,000 each; clerk and stenographer, $1,000; chief watchman, $840; two watchmen, at $600 each; in all, $27,790.

OFFICE OF ASSISTANT TREASURER AT NEW ORLEANS: Assistant treasurer, $4,500; cashier, $2,250; paying teller, $2,000; receiving teller, $2,000; vault clerk, $1,800; bookkeeper, $1,500; clerk, $1,500; assorting teller, $1,200; six clerks, at $1,200 each; two clerks, at $1,000 each; typewriter and stenographer, $1,000; day watchman, $720; night watchman, $720; messenger, $500; in all, $28,890.

OFFICE OF ASSISTANT TREASURER AT NEW YORK: Assistant treasurer, $8,000; cashier (formerly deputy assistant treasurer and cashier), $4,200; assistant cashier (formerly assistant cashier and chief clerk), $3,600; chief of check pay division (formerly assistant cashier and vault clerk), $3,000; bond clerk and assistant vault clerk (formerly chief of division), $2,800; paying teller (formerly chief of division), $3,000; receiving teller (formerly chief of division), $2,800; chief of redemption division (formerly chief of division), $2,700; vault and authorities clerk (formerly chief of division), $2,500; chief clerk (formerly chief paying teller), $3,000; chief of coin division (formerly chief of division), $2,700; chief bookkeeper, $2,400; assistant chief of canceled check division (formerly assistant teller), $2,250; assistant chief of redemption division (formerly assistant teller),

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$2,250; assistant paying teller (formerly assistant teller), $2,250; paying teller, coin division (formerly assistant teller), $2,100; assistant chief, check pay division (formerly assistant teller), $2,000; assistant chief, coin division (formerly assistant teller), $2,000; chief of minor coin division (formerly assistant teller), $2,000; four bookkeepers (formerly assistant tellers), at $2,000 each; paying teller, minor coin division (formerly assistant teller), $1,800; assistant receiving teller (formerly assistant teller), $1,800; two bookkeepers (formerly assistant tellers), at $1,500 each; clerks—one at $2,300, one at $2,100, two at $2,000 each, one (formerly assistant teller), $1,900, three (formerly assistant tellers), at $1,800 each, one (formerly assistant teller), $1,700, six, at $1,600 each, nine, at $1,500 each; thirteen, at $1,400 each; eight, at $1,300 each; fourteen, at $1,200 each; five, at $1,100 each; five, at $1,000 each; messengers—two at $1,200 each, five at $900 each, two at $800 each; chief guard (formerly chief detective), $1,500; guard (formerly assistant detective), $1,200; two guards (formerly two hall men), at $1,000 each; superintendent of building, $1,800; chief engineer (formerly engineer), $1,200; two engineers, at $1,050 each; eight watchmen, at $720 each; in all, $190,610.

Office of assistant treasurer at Philadelphia: Assistant treasurer, $5,000; cashier, $2,500; paying teller, $2,250; coin teller, $2,000; vault clerk, $1,900; bookkeeper, $1,800; assorting teller, $1,800; receiving teller, $1,700; redemption teller, $1,600; clerks—one at $1,600, two at $1,500 each, three at $1,400 each, one at $1,300, five at $1,200 each, one at $1,000; chief guard, $1,100; six counters, at $900 each; six watchmen, at $720 each; in all, $48,470.

Office of assistant treasurer at Saint Louis: Assistant treasurer, $4,500; cashier, $2,500; paying teller, $2,000; receiving teller, $1,800; assorting teller, $1,800; change teller, $1,600; three clerks, at $1,500 each; coin teller, $1,200; bookkeeper, $1,500; seven clerks, at $1,200 each; two clerks, at $1,100 each; three clerks, at $1,000 each; three clerks, at $900 each; two watchmen, at $720 each; two janitors, at $600 each; guard, $720; in all, $41,060.

Office of assistant treasurer at San Francisco: Assistant treasurer, $4,500; cashier, who also acts as vault clerk, $3,000; bookkeeper, $2,000; clerk, $2,000; paying teller, $2,400; receiving teller, $2,000; three clerks, at $1,800 each; clerk, $1,500; clerk, $1,400; two clerks, at $900 each; messenger, $840; four watchmen, at $720 each; in all, $29,720.

For paper for interest, transfer, redemption, pension, and other checks and drafts for the use of the Treasurer of the United States, assistant treasurers, pension agents, disbursing officers, and others, $9,000.

MINTS AND ASSAY OFFICES.

Mint at Carson, Nevada: Assayer in charge, who shall also perform the duties of melter, $2,250; assistant assayer, $1,500; chief clerk, $1,600; clerk, $1,000; in all, $6,350.

For wages of workmen and other employees, $6,200.

For incidental and contingent expenses, $3,000.

Mint at New Orleans, Louisiana: Assayer, who shall have general charge of the institution as under section thirty-five hundred and sixty, Revised Statutes, and who shall be a practical assayer, $2,500;

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assistant assayer, $1,500; chief clerk, who shall perform the duties of cashier, $1,500; three clerks, $1,200 each; assayer's assistant, $1,200; in all, $10,300.

For wages of workmen and other employees, $7,500.

For incidental and contingent expenses, $3,500.

MINT AT SAN FRANCISCO, CALIFORNIA: Superintendent, $4,500; assayer, superintendent melting and refining department, and superintendent coining department, at $3,000 each; chief clerk, and cashier, at $2,500 each; bookkeeper, $2,000; assistant assayer, $2,200; assistant melter and refiner, and assistant coiner, at $2,000 each; assistant cashier, $1,800; assistant bookkeeper, $1,800; assayer's assistant, $2,000; deposit weigh clerk, $2,000; one clerk, $2,000; one clerk, $1,800; six clerks, at $1,600 each; private secretary, $1,400; two clerks, at $1,400 each; two clerks, at $1,200 each; in all, $54,300.

For wages of workmen, and other employees, $122,500.

For incidental and contingent expenses, including new machinery and repairs, exclusive of that required for the refinery, melter and refiners' wastage, and loss on sale of sweeps, arising from the manufacture of ingots for coinage, and for wastage and loss on sale of coiners' sweeps, $40,000.

ASSAY OFFICE AT BOISE, IDAHO: Assayer in charge, who shall also perform the duties of melter, $2,250; assistant assayer, $1,600; chief clerk, who shall also perform the duties of cashier, $1,500; assayer's assistant, $1,500; one clerk, $1,200; in all, $8,050.

For wages of workmen, and other employees, $3,540.

For incidental and contingent expenses, $2,500.

ASSAY OFFICE AT CHARLOTTE, NORTH CAROLINA: Assayer and melter, $1,500.

For wages of workmen and other clerks and employees, $900.

For incidental and contingent expenses, $400.

ASSAY OFFICE AT DEADWOOD, SOUTH DAKOTA: Assayer in charge, who shall also perform the duties of melter, $2,000; clerk, $1,200; assistant assayer, $1,600; assayer's assistant, $1,400; in all, $6,200.

For wages of workmen and other employees, $3,000.

For incidental and contingent expenses, new machinery, and so forth, $1,500.

ASSAY OFFICE AT HELENA, MONTANA: Assayer in charge, $2,500; chief clerk, who shall also perform the duties of cashier, $1,800; clerk, $1,600; clerk, $1,400; assistant assayer, $1,700; assayer's assistant, $1,400; in all, $10,400.

For wages of workmen and other employees, $6,500.

For incidental and contingent expenses, $3,250.

ASSAY OFFICE AT SEATTLE, WASHINGTON: Assayer in charge, who shall also perform the duties of melter, $2,750; assistant assayer, $2,000; chief clerk, who shall also perform the duties of cashier, $2,000; one clerk, one thousand seven hundred dollars; two clerks, at $1,600 each; clerk, $1,400; in all, $13,050.

For wages of workmen, and other employees, $22,000.

For incidental and contingent expenses, including rent of building, $6,500.

ASSAY OFFICE AT SALT LAKE CITY, UTAH: Assayer in charge, who shall also perform the duties of melter, $2,500; assistant assayer, $1,600; chief clerk, who shall also perform the duties of cashier,

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$1,600: *Provided*, That the chief clerk shall perform the duties of assayer in charge in his absence; clerk, $1,400; in all, $7,100.

For wages of workmen, and other employees, $4,500.

For incidental and contingent expenses, $3,500.

The position of coiner, which has heretofore existed in each of the coinage mints, and the position of melter and refiner, which has heretofore existed in each of the coinage mints and in the United States assay office at New York, are hereby abolished, to take effect on and after July first, nineteen hundred and twelve, and on and after that date the duties and responsibilities heretofore imposed by law on the officers holding said positions in each of said mints and the assay office shall devolve upon the superintendents of said institutions; and all assistants and employees of the mints and assay offices of the United States shall, from and after July first, nineteen hundred and twelve, be appointed by the Secretary of the Treasury.

MINT AT DENVER, COLORADO: Superintendent, $4,500; assayer, $3,000; superintendent melting and refining department, $3,000; superintendent coining department, $2,500; chief clerk and cashier, at $2,500 each; deposit weigh clerk and bookkeeper, at $2,000 each; assistant assayer, $2,200; two clerks, at $2,000 each; assayer's assistant, $2,000; assistant cashier, $1,800; two clerks, at $1,800 each; four clerks, at $1,600 each; two clerks, at $1,400 each; one clerk, $1,200; private secretary, $1,200; in all, $47,200.

For wages of workmen and other employees, $94,000.

For incidental and contingent expenses, including new machinery and repairs, wastage in melting and refining department and coining department, and loss on sale of sweeps arising from the treatment of bullion and the manufacture of coin, $35,000.

MINT AT PHILADELPHIA: Superintendent, $4,500; engraver, $4,000; assayer, $3,000; superintendent melting and refining department, $3,000; superintendent coining department, $2,500; chief clerk, $2,500; assistant assayer, $2,200; assistant superintendent of melting and refining department, $2,000; cashier, and bookkeeper, at $2,500 each; one clerk, and deposit weigh clerk, at $2,000 each; assistant cashier, and curator, at $1,800 each; two clerks, at $1,700 each; eight clerks, at $1,600 each; one clerk, $1,500; six clerks, at $1,400 each; one clerk, $1,300; three clerks, at $1,200 each (including one formerly paid from "parting and refining"); five clerks, at $1,000 each; one clerk, $900; in all, $73,200.

For wages of workmen, and other employees, $305,000.

For incidental and contingent expenses, including new machinery and repairs, wastage in melting and refining and in coining departments, and loss on sale of sweeps arising from the treatment of bullion and the manufacture of coins, $70,000.

ASSAY OFFICE AT NEW YORK: Superintendent, $5,000; assayer, $3,000; superintendent of melting and refining department, $3,000; chief clerk, cashier, deposit weight clerk, and assistant assayer, at $2,500 each; two clerks, and assayer's assistant, at $2,000 each; bookkeeper, $2,350; assistant cashier, and four clerks, at $1,800 each; one clerk (formerly paid from "parting and refining"), $1,600; one clerk, $1,500; private secretary, $1,400; one clerk, $1,250; seven clerks, at $1,000 each; in all, $51,100.

For wages of workingmen and other employees, $80,000.

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For incidental and contingent expenses, including new machinery and repairs, wastage in the melting department, and loss on sale of sweeps arising from the treatment of bullion, $60,000.

GOVERNMENT IN THE TERRITORIES.

DISTRICT OF ALASKA: Governor, $7,000; four judges, at $7,500 each; four attorneys, at $5,000 each; four marshals, at $4,000 each; four clerks, at $3,500 each; in all, $87,000.

For incidental and contingent expenses, clerk hire, not to exceed $2,250; janitor service, not to exceed $900; traveling expenses of the governor while absent from Juneau on official business; rent of offices and quarters in Juneau, stationery, lights, and fuel, to be expended under the direction of the governor, $7,150.

TERRITORY OF HAWAII: Governor, $7,000; secretary, $4,000; chief justice, $6,000; two associate justices, at $5,500 each; in all, $28,000.

For judges of circuit courts, at $4,000 each, so much as may be necessary, for the fiscal year ending June thirtieth, nineteen hundred and thirteen.

For contingent expenses of the Territory of Hawaii, to be expended by the governor for stationery, postage, and incidentals, $1,000, and for private secretary to the governor, $2,000; in all, $3,000.

For legislative expenses, namely: Furniture, light, telephone, stationery, record casings and files, printing and binding, indexing records, postage, ice, water, clerk hire, mileage of members, and incidentals, pay of chaplain, clerk, sergeant at arms, stenographers, typewriters, janitors, and messengers, $30,000: *Provided*, That the members of the Legislature of the Territory of Hawaii shall not draw their compensation of $200 or any mileage for an extra session, held in compliance with section fifty-four of an Act to provide a government for the Territory of Hawaii, approved April thirtieth, nineteen hundred.

WAR DEPARTMENT.

During the fiscal year nineteen hundred and thirteen no vacancy occurring in the classified service of the War Department herein provided for shall be filled except by promotion or demotion from among those within said service, until the whole number of those herein authorized in said classified service of the department shall have been reduced not less than five per centum. And the salaries or compensation of all places herein provided for that may be embraced within such reduction shall not be available for expenditure but shall lapse and be covered into the Treasury.

OFFICE OF THE SECRETARY: Secretary of War, $12,000; Assistant Secretary, $5,000; assistant and chief clerk, $4,000; private secretary to the Secretary, $2,500; clerk to the Secretary, $2,000; stenographer to the Secretary, $2,000; clerk to the Assistant Secretary, $2,400; assistant chief clerk, $2,400; disbursing clerk, $2,750; appointment clerk, $2,250; four chiefs of division, at $2,000 each; superintendent of buildings outside of State, War, and Navy Department Building, in addition to compensation as chief of division, $500; chief telegrapher, $1,800; clerks—four of class four, five of class three, fifteen of class two, nineteen of class one, six at $1,000 each, one at $900; foreman, $1,200; carpenter, $1,200; chief messenger, $1,000; carpen-

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ter, $900; skilled laborer, $900; six messengers; seven assistant messengers; telephone switchboard operator; assistant telephone switchboard operator; two messenger boys, at $360 each; engineer, $900; assistant engineer, $720; fireman; four watchmen; five watchmen, at $660 each; eight laborers; two laborers, at $540 each; hostler, $600; two hostlers and one watchman, at $540 each; elevator conductors—one at $600, one at $540; four charwomen; in all, $149,820.

ADJUTANT GENERAL'S OFFICE: Chief clerk, $2,000; ten chiefs of division, at $2,000 each; clerks—forty-eight of class four, sixty-four of class three, ninety-four of class two, two hundred and thirty-two of class one, eighty-eight at $1,000 each; engineer, $1,400; assistant engineer, $900; two firemen; skilled mechanic, $1,000; ten messengers; fifty-eight assistant messengers; messenger boy, $360; eight watchmen; superintendent of building, $250; and eighteen laborers; in all, $781,950; all employees provided for by this paragraph for the Adjutant General's Office of the War Department shall be exclusively engaged on the work of this office for the fiscal year nineteen hundred and thirteen.

OFFICE OF THE INSPECTOR GENERAL: Clerks—one of class four, two of class three, three of class two, one of class one; messenger; assistant messenger; and messenger, $600; in all, $12,560.

OFFICE OF THE JUDGE ADVOCATE GENERAL: Chief clerk and solicitor, $2,500; law clerks—one at $2,400, one at $2,000; clerks—one of class four, two of class three, three of class two, six of class one; copyist; two messengers; assistant messenger; in all, $26,600.

SIGNAL OFFICE: Chief clerk, $2,000; clerks—two of class four, one of class three, one of class two, four of class one, ten at $1,000 each; two messengers; assistant messenger; in all, $25,800.

The services of skilled draftsmen and such other services as the Secretary of War may deem necessary may be employed only in the Signal Office to carry into effect the various appropriations for fortifications and other works of defense, and for the Signal Service of the Army, to be paid from such appropriations, in addition to the foregoing employees appropriated for in the Signal Office: *Provided*, That the entire expenditures for this purpose for the fiscal year ending June thirtieth, nineteen hundred and thirteen, shall not exceed $25,000, and that the Secretary of War shall each year in the annual estimates report to Congress the number of persons so employed, their duties, and the amount paid to each.

The services of one wireless engineer and one wireless assistant, as the Secretary of War may deem necessary, may be employed only in the Signal Office to carry into effect the appropriation for the Signal Service of the Army, to be paid from such appropriation, in addition to the foregoing employees appropriated for in the Signal Office: *Provided*, That the entire expenditures for this purpose for the fiscal year ending June thirtieth, nineteen hundred and thirteen, shall not exceed $3,600, and that the Secretary of War shall each year in the annual estimates report to Congress the number of persons so employed, their duties, and the amount paid to each.

OFFICE OF THE QUARTERMASTER GENERAL: Chief clerk, $2,500; two chiefs of division, at $2,000 each; clerks—nine of class four, fourteen of class three, twenty-seven of class two, fifty-eight of class one, forty at $1,000 each, thirteen at $900 each; advisory architect, $4,000; experienced builder and mechanic, $2,500; inspector of sup-

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plies, $2,500; draftsmen—three at $1,800 each, seven at $1,600 each, five at $1,400 each, one at $1,200; supervising engineer, $2,750; two civil engineers, at $1,800 each; assistant civil engineer, $1,200; electrical engineer, $2,000; electrical and mechanical engineer, $2,000; marine engineer, $3,500; assistant marine engineer, $1,800; sanitary and heating engineer, $1,800; blue-print operator, $900; four messengers; eleven assistant messengers; two assistant messengers, at $600 each; female messenger, $480; seven laborers; laborer, $480; in all, $275,610.

OFFICE OF THE COMMISSARY GENERAL: Chief clerk, $2,000; clerks—six of class four, eight of class three, eight of class two, eighteen of class one, thirteen at $1,000 each, four at $900 each; messenger; two assistant messengers; laborer; in all, $77,940.

OFFICE OF THE SURGEON GENERAL: Chief clerk, $2,000; law clerk, $2,000; clerks—thirteen of class four, eleven of class three, twenty-six of class two, thirty-two of class one, ten at $1,000 each, three at $900 each; anatomist, $1,600; engineer, $1,400; three firemen; skilled mechanic, $1,000; two messengers; ten assistant messengers; three watchmen; superintendent of building (Army Medical Museum and Library), $250; six laborers; chemist, $2,088; assistant chemist, $1,500; principal assistant librarian, $2,250; pathologist, $1,800; microscopist, $1,800; assistant librarian, $1,800; four charwomen; in all, $166,108.

OFFICE OF THE PAYMASTER GENERAL: Chief clerk, $2,250; clerks—six of class four, seven of class three, twelve of class two, eleven of class one, five at $1,000 each, nine at $900 each; messenger; assistant messenger; four laborers; laborer, $600; in all, $72,150.

OFFICE OF THE CHIEF OF ORDNANCE: Chief clerk, $2,000; chief of division, $2,000; clerks—five of class four, seven of class three, twelve of class two, twenty-eight of class one, nine at $1,000 each, four at $900 each; two messengers; assistant messenger; messenger, $780; messenger, $720; laborer; in all, $91,760.

The services of skilled draftsmen and such other services, not clerical, as the Secretary of War may deem necessary, may be employed in the office of the Chief of Ordnance to carry into effect the various appropriations for the armament of fortifications and for the arming and equipping of the organized militia, to be paid from such appropriations, in addition to the amount specifically appropriated for draftsmen in the Army Ordnance Bureau: *Provided*, That the entire expenditures for this purpose for the fiscal year ending June thirtieth, nineteen hundred and thirteen, shall not exceed $45,000, and that the Secretary of War shall each year in the annual estimates report to Congress the number of persons so employed, their duties, and the amount paid to each.

OFFICE OF THE CHIEF OF ENGINEERS: Chief clerk, $2,000; two chiefs of division, at $2,000 each; clerks—eight of class four, eleven of class three, thirteen of class two, sixteen of class one, ten at $1,000 each, eleven at $900 each; six messengers; three assistant messengers; and two laborers; in all, $103,820.

And the services of skilled draftsmen, civil engineers, and such other services as the Secretary of War may deem necessary, may be employed only in the office of the Chief of Engineers, to carry into effect the various appropriations for rivers and harbors, fortifications, and surveys, to be paid from such appropriations: *Provided*,

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That the expenditures on this account for the fiscal year nineteen hundred and thirteen shall not exceed $42,000; and that the Secretary of War shall each year, in the annual estimates, report to Congress the number of persons so employed, their duties, and the amount paid to each.

OFFICE OF THE BUREAU OF INSULAR AFFAIRS: Law officer, $4,500; chief clerk, $2,000; clerks—ten of class four, three of class three, ten of class two, nineteen of class one, eighteen at $1,000 each; three messengers; two assistant messengers; five laborers; two charwomen; in all, $91,840.

DIVISION OF MILITIA AFFAIRS, OFFICE OF THE CHIEF OF STAFF: For the following now authorized by section twenty of the Act approved January twenty-first, nineteen hundred and three, as amended by the Act approved May twenty-seventh, nineteen hundred and eight, namely: Chief clerk, $2,000; clerks—two of class four, two of class three, three of class two, nine of class one, seven at $1,000 each; messenger; one assistant messenger; two laborers; two charwomen; in all, $34,160.

For rent of quarters, $2,500.

For miscellaneous expenses of the Division of Militia Affairs, including stationery, fuel, light, furniture, telegraph and telephone service, and necessary printing and binding, $3,500, which sum, together with the foregoing amounts for salaries and rent, shall be paid from the permanent appropriation for militia under the provisions of section sixteen hundred and sixty-one, Revised Statutes, as amended, and no other or further sums shall be expended from said appropriation for or on account of said Division of Militia Affairs during the fiscal year nineteen hundred and thirteen.

CONTINGENT EXPENSES OF THE WAR DEPARTMENT: For purchase of professional and scientific books, law books, including their exchange; books of reference, blank books, pamphlets, periodicals, newspapers (subscriptions to periodicals may be paid for in advance), maps; typewriters and adding machines, including their exchange; furniture and repairs to same; carpets, matting, oilcloth, file cases, towels, ice, brooms, soap, sponges, fuel, gas, and heating apparatus for and repairs to the buildings (outside of the State, War, and Navy Department building) occupied by Adjutant General's office, the Bureau of Insular Affairs, and the other offices of the War Department and its bureaus located in the Lemon Building; expenses of horses and vehicles, including their exchange, to be used only for official purposes; freight and express charges; street car tickets, not exceeding $300; temporary labor not to exceed $1,000, and other absolutely necessary expenses, $48,000.

For stationery for the War Department and its bureaus and offices, $25,000.

For postage stamps for the War Department and its bureaus, as required under the Postal Union, to prepay postage on matters addressed to Postal Union countries, $500.

For rent of buildings in the District of Columbia for use of the War Department, as follows: Medical dispensary, Surgeon General's office, $1,000; War Department, $7,200; Adjutant General's office, $2,300; Bureau of Insular Affairs, $2,220; in all, $12,720.

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PUBLIC BUILDINGS AND GROUNDS.

OFFICE OF PUBLIC BUILDINGS AND GROUNDS: Superintendent, $3,000; assistant and chief clerk, $2,400; clerks—one of class four, one of class three, one of class two and stenographer, one of class one; messenger; landscape architect, $2,400; surveyor and draftsman, $1,500; in all, $16,140.

For foremen, gardeners, mechanics, and laborers employed in the public grounds, $31,200.

For one sergeant of park watchmen, $950.

For second sergeant of park watchmen, $900.

For day watchmen, as follows: One in Franklin Park and adjacent reservations on New York Avenue; one in Lafayette Park; two in Smithsonian Grounds and neighboring reservations; one in Judiciary Park; one in Lincoln Park and adjacent reservations; one in Iowa Circle and reservations to the northeast; one in Thomas and Scott Circles and neighboring reservations; one in Washington Circle and neighboring reservations; one in Dupont Circle and neighboring reservations; one in McPherson Park and Farragut Square; one in Stanton Park and neighboring reservations; two in Henry and Seaton Parks and neighboring reservations; one in Mount Vernon Park and reservations to the northeast; one in grounds south of the Executive Mansion; one in Garfield and Marion Parks and reservations to the east; one in Monument Park; and three in Potomac Park; twenty-one in all, at $720 each, $15,120.

For night watchmen, as follows: Two in Smithsonian Grounds and neighboring reservations; one in Judiciary Park; two in Henry and Seaton Parks and adjacent reservations; one in grounds south of the Executive Mansion; one in Monument Park; one in Garfield Park and neighboring reservations; one in Iowa, Scott, and Thomas Circles and neighboring reservations; one in Stanton and Lincoln Parks and neighboring reservations; one in Lafayette and McPherson Squares and Franklin and Farragut Parks; one in Washington and Dupont Circles and neighboring reservations; one in Mount Vernon Park and neighboring reservations; two for greenhouses and nursery; and four in Potomac Park, nineteen in all, at $720 each, $13,680.

For watchman for the care of the monument and dock at Wakefield, Virginia, the birthplace of Washington, $300.

For contingent and incidental expenses, including purchase of professional and scientific books and periodicals, books of reference, blank books, photographs, and maps, $700.

For purchase and repair of bicycles and revolvers for park watchmen and for purchase of ammunition, $400.

For purchasing and supplying uniforms to park, Monument, and bridge watchmen, $2,800.

Of the following amounts appropriated under Public Buildings and Grounds, the sum of $32,875 shall be paid out of the revenues of the District of Columbia.

STATE, WAR, AND NAVY DEPARTMENT BUILDING.

Office of the superintendent: Clerk of class three; stenographer and typewriter, $900; chief engineer, $1,400; five assistant engineers, at $1,000 each; electrical machinist, $1,200; captain of the watch,

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$1,200; two lieutenants of the watch, at $840 each; forty-nine watchmen; carpenter, $1,000; electrician, $1,200; machinist, painter, and plumber, at $1,000 each; three dynamo tenders, at $900 each; seven skilled laborers or mechanics, at $840 each; messenger; foreman of laborers, $840; ten firemen; eleven conductors of elevators, at $720 each; seventeen laborers; three second-class firemen, at $660 each; four forewomen of charwomen, at $300 each; seventy-seven charwomen; gardener, $720; in all, $112,440.

For fuel, lights, repairs, and miscellaneous items, and city directories, $32,000.

NAVY DEPARTMENT ANNEX, MILLS BUILDING: Engineer, $1,200; four firemen; two elevator conductors, at $720 each; five watchmen; four laborers; one forewoman, $300; nine charwomen; in all, $14,220.

For repairs, supplies, and miscellaneous articles, Mills Building (Navy Department Annex), $2,000.

For purchase and installation of one three-hundred-kilowatt electric generator and appurtenances, in main building, $14,000.

STATE DEPARTMENT ANNEX: Laborer, $660.

NAVY DEPARTMENT.

OFFICE OF THE SECRETARY: Secretary of the Navy, $12,000; Assistant Secretary of the Navy, $5,000; chief clerk, $3,000; private secretary to Secretary, $2,500; clerk to Secretary, $2,250; clerk to Assistant Secretary, $2,000; disbursing clerk, $2,250; stenographer, $1,800; clerks—four of class four, two of class three, four of class two, five of class one, one at $1,100, four at $1,000 each; stenographer, $1,200; telegraph operator, $1,100; two copyists; carpenter, $900; four messengers; four assistant messengers; three laborers; three messenger boys, at $600 each; messenger boy, $420; messenger boy, $400; telephone switchboard operator; assistant telephone switchboard operator; in all, $75,060.

OFFICE OF THE SOLICITOR: Solicitor, $4,000; law clerks—one at $2,500, one at $2,250, one at $2,000; clerks—one of class four, one of class three, one of class two, one at $840; messenger, $600; in all, $16,990.

LIBRARY OF THE NAVY DEPARTMENT: Clerk of class two; clerk of class one; assistant messenger; one laborer; in all, $3,980.

OFFICE OF NAVAL RECORDS OF THE REBELLION: Chief clerk, $2,000; agent, to be selected by the Secretary of the Navy from the officers of the late Confederate navy, $1,800; clerks—one of class three (indexer) three of class two, three of class one, two at $1,000 each; copyist; copyist, $720; assistant messenger; necessary traveling expenses for collection of records, $100; in all, $17,640; all employees provided for by this paragraph shall be exclusively engaged on the work of this office during the fiscal year nineteen hundred and thirteen.

For continuing the publication of an edition of eleven thousand copies of the Official Records of the Union and Confederate Navies in the War of the Rebellion, in accordance with the plan approved by the Secretary of the Navy under the act of Congress approved July thirty-first, eighteen hundred and ninety-four, and for the purpose of making such maps and illustrations as relate to the work, $21,000.

JUDGE ADVOCATE GENERAL, UNITED STATES NAVY: Law clerk, $2,200; clerks—one of class four, one at $1,300, two of class one, three at $1,000 each, one at $900; assistant messenger; in all, $12,320.

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BUREAU OF NAVIGATION: Chief clerk, $2,000; clerks—one at $2,000, four of class four, five of class three, five of class two, eight of class one, three at $1,100 each, fourteen at $1,000 each; fourteen copyists; nine copyists, at $840 each; two assistant messengers; messenger boy, $600; five laborers; in all, $78,600.

OFFICE OF NAVAL INTELLIGENCE: Clerk of class four; clerks—one of class two, one at $1,300, three at $1,000 each; two translators, at $1,400 each; assistant draftsman, $1,200; messenger boy, $600; in all, $12,100.

BUREAU OF EQUIPMENT: Chief clerk, $2,000; expert in wireless telegraphy, $3,000; draftsman, who shall be an expert in marine construction, $2,000; bookkeeper and accountant, $1,800; one draftsman, $1,700; electrical expert and draftsman, $1,600; clerks—one of class four, two of class three, one of class two, one at $1,300, two of class one, four at $1,000 each; draftsman for work in connection with depots for coal, $1,200; two copyists; assistant messenger; messenger boy, $600; blue printer, $600; messenger boy, $360; and two laborers; in all, $32,800.

The services of draftsmen and such other technical services as the Secretary of the Navy may deem necessary may be employed only in the Bureau of Equipment, and at rates of compensation not exceeding those paid hereunder prior to January first, nineteen hundred and twelve, to carry into effect the various appropriations for "Increase of the Navy" and "Equipment of vessels," to be paid from the appropriation "Equipment of vessels": *Provided*, That the expenditures on this account for the fiscal year nineteen hundred and thirteen shall not exceed $9,500. A statement of the persons employed hereunder, their duties, and the compensation paid to each shall be made to Congress each year in the annual estimates.

HYDROGRAPHIC OFFICE: Hydrographic engineer, $3,000; assistant, $2,200; assistant, $2,000; nautical experts—one at $1,800, two at $1,600 each, one at $1,400, three at $1,200 each, three at $1,000 each; clerks—one of class two, one of class one; custodian of archives; $1,200; copyists—three at $900 each; one at $840, two at $720 each; compiler, $1,400; editor of Notice to Mariners, $1,800; computer, $1,400; draftsmen—three at $1,800 each, four at $1,600 each; two at $1,400 each, two at $1,200 each, five at $1,000 each, one at $900; three apprentice draftsmen, at $700 each; chief engraver, $2,000; engravers—two at $1,800 each, three at $1,600 each, one at $1,400, six at $1,200 each, two at $1,000 each, one at $720; apprentice engraver, $800; appentice engraver, $700; plate printers—chief, $1,400, one at $1,200, one at $1,000, two at $900 each, one at $800; apprentice plate printers—one at $700, one at $600; chief lithographer, $1,800; two lithographers, at $1,000 each; apprentice lithographer, $700; electrotyper and chart plate maker, $1,200; assistant messenger; four laborers; helpers—two at $720 each, two at $660 each, one at $600, one at $500, one at $480; in all, $102,700.

Additional employees, for production of charts from metallic plates by photolithographic process: Draftsmen—one at $1,800, two at $1,400 each, two at $1,200 each, five at $1,000 each; process photographer, $1,600; photographic printer, $1,200; lithographic pressman, $1,400; lithographic transferer, $1,400; two negative cutters, at $1,000 each; two feeders, at $480 each; in all, $20,560.

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For purchase of copperplates, steel plates, chart paper, packing boxes, chart portfolios, electrotyping copperplates, cleaning copperplates; tools, instruments, power, and materials for drawing, engraving, and printing; materials for and mounting charts; reduction of charts by photography; photolithographing charts for immediate use; transfer of photolithographic and other charts to copper; care and repairs to printing presses, furniture, instruments, and tools; extra drawing and engraving; translating from foreign languages; telegrams on public business; the preparation of Pilot Charts and their supplements, and the printing and mailing of the same; purchase of data for charts and sailing directions and other nautical publications; works and periodicals relating to hydrography, marine meteorology, navigation, surveying, oceanography, and terrestrial magnetism, $7,000.

Contingent expenses of branch offices at Boston, New York, Philadelphia, Baltimore, Norfolk, Savannah, New Orleans, San Francisco, Portland (Oregon), Portland (Maine), Chicago, Cleveland, Port Townsend, Buffalo, Duluth, Sault Sainte Marie, Panama, and Galveston, including furniture, fuel, lights, works and periodicals relating to hydrography, marine meterology, navigation, surveying, oceanography, and terrestrial magnetism, stationery, miscellaneous articles, rent and care of offices, care of time balls, car fare and ferriage in visiting merchant vessels, freight and express charges, telegrams, and other necessary expenses incurred in collecting the latest information for the Pilot Charts, and for other purposes for which the offices were established, $11,000.

For services of necessary employees at branch offices, $17,960.

Additional equipment and supplies for production of charts from metallic plates by photolithographic process:

For purchase of copperplates, steel plates, chart paper, packing boxes, chart portfolios; electrotyping copperplates; cleaning copperplates; tools, instruments, power, and materials for drawing, engraving, and printing; materials for and mounting charts; reduction of charts by photography; photolithographing charts for immediate use; transfer of photolithographic and other charts to copper; care and repairs to printing presses, furniture, instruments, and tools; extra drawing and engraving; translating from foreign languages; telegrams on public business; the preparation of Pilot Charts and their supplements and the printing and mailing of the same; purchase of data for charts and sailing directions and other nautical publications; books of reference, and works and periodicals relating to hydrography, marine meteorology, navigation, surveying, oceanography, and terrestrial magnetism, and to other professional and technical subjects connected with the work of the Hydrographic Office, $19,000.

Lithographic press and attachments, including motors, $6,500.

Additional drafting equipment, $820.

Additional photographic equipment, $3,120.

For a monthly Pilot Chart of the North Pacific Ocean showing graphically the matters of value and interest to the maritime community of the Pacific coast, and particularly the directions and forces of the winds to be expected during the month succeeding the date of issue; the set and strength of the currents; the feeding grounds of whales and seals; the regions of storm, fog, and ice; the positions of derelicts and floating obstructions to navigation; the best routes to be followed by steam and by sail; expenses of communicating and

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circulating information; lithographing and engraving; the purchase of materials for and printing and mailing the chart, $2,000.

No expenditure shall be incurred or authorized for personal services or otherwise under the Hydrographic Office at Washington, District of Columbia, during the fiscal year nineteen hundred and thirteen except as herein authorized by appropriations under the Navy Department or under appropriations that may be made for printing and binding.

NAVAL OBSERVATORY: For assistant astronomers—one at $2,400; two at $1,800 each; assistant in department of nautical instruments, $1,600; clerks—one of class four, one of class two; instrument maker, $1,500; electrician, $1,500; librarian, $1,400; assistants—three at $1,600 each, three at $1,400 each, two at $1,000 each; stenographer and typewriter, $900; foreman and captain of the watch, $1,000; carpenter, and engineer, at $1,000 each; three firemen; six watchmen; elevator conductor, $720; nine laborers; in all, $43,240.

For miscellaneous computations, $5,000.

For professional and scientific books, periodicals, engravings, photographs, and fixtures for the library, $750.

For apparatus and instruments and for repairs of the same, $2,000.

For repairs to buildings, fixtures, and fences, furniture, gas, chemicals, and stationery, freight (including transmission of public documents through the Smithsonian exchange), foreign postage, and expressage, plants, fertilizers, and all contingent expenses, $3,000.

For fuel, oil, grease, pipe, wire, and other materials needed for the maintenance and repair of boilers, engines, heating apparatus, electric lighting and power plant, and water-supply system; purchase and maintenance of teams; material for boxing nautical instruments for transportation; paints, telegraph and telephone service, and incidental labor, $8,000.

NAUTICAL ALMANAC OFFICE: For assistants in preparing for publication the American Ephemeris and Nautical Almanac, namely: One at $2,000, who may act as or be appointed director; two at $1,600 each, two at $1,400 each, three at $1,200 each, two at $1,000 each; copyist and typewriter, $900; assistant messenger; and one messenger boy, $420; in all, $15,640.

For pay of computers on piecework in preparing for publication the American Ephemeris and Nautical Almanac and in improving the tables of the planets, moon, and stars, $7,000.

BUREAU OF STEAM ENGINEERING: Chief clerk, $2,000; clerks—one of class four, one of class three, two of class two, one at $1,300, three of class one, one at $1,100, three at $1,000 each, one at $840; assistant messenger; two laborers; two laborers, at $600 each; messenger boy, $600; draftsman, $1,400; assistant draftsman, $1,200; stenographers and typewriters—one at $1,000, one at $900; in all, $26,380.

The services of draftsmen and such other technical services as the Secretary of the Navy may deem necessary may be employed only in the Bureau of Steam Engineering and at rates of compensation not exceeding those paid hereunder prior to January first, nineteen hundred and twelve, to carry into effect the various appropriations for "Increase of the Navy" and "Steam machinery," to be paid from the appropriation "Steam machinery": *Provided*, That the expenditures on this account for the fiscal year nineteen hundred and

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thirteen shall not exceed $33,700. A statement of the persons employed hereunder, their duties, and the compensation paid to each shall be made to Congress each year in the annual estimates.

BUREAU OF CONSTRUCTION AND REPAIR: Chief clerk, $2,000; clerks—two of class four, two of class three, three of class two, three at $1,300 each, three of class one, nine at $1,100 each, fifteen at $1,000 each; five copyists; two assistant messengers; laborer; messenger boys—nine at $600 each, one at $400; in all, $57,800.

The services of draftsmen and such other technical services as the Secretary of the Navy may deem necessary may be employed only in the Bureau of Construction and Repair and at rates of compensation not exceeding those paid hereunder prior to January first, nineteen hundred and twelve, to carry into effect the various appropriations for "Increase of the Navy" and "Construction and Repair," to be paid from the appropriation "Construction and Repair": *Provided*, That the expenditures on this account for the fiscal year nineteen hundred and thirteen shall not exceed $88,300. A statement of the persons employed hereunder, their duties, and the compensation paid to each shall be made to Congress each year in the annual estimates.

BUREAU OF ORDNANCE: Chief clerk, $2,000; ordnance engineer, mechanical draftsman, and computer, $3,000; draftsman, $1,800; assistant draftsman, $1,400; clerks—two of class three, two of class two, one at $1,300, three of class one, one at $1,100, five at $1,000 each; three copyists; two copyists at $840 each; assistant messenger; messenger boys—two at $600 each, two at $400 each; laborer; in all, $32,960.

The services of clerks, draftsmen, and such other technical services as the Secretary of the Navy may deem necessary may be employed only in the Bureau of Ordnance, and at rates of compensation not exceeding those paid hereunder prior to January first, nineteen hundred and twelve, to carry into effect the various appropriations for "Increase of the Navy" and "Ordnance and ordnance stores" to be paid from the appropriation "Ordnance and ordnance stores": *Provided*, That the expenditures on this account for the fiscal year nineteen hundred and thirteen shall not exceed $12,800. A statement of the persons employed hereunder, their duties, and the compensation paid to each, shall be made to Congress each year in the annual estimates.

BUREAU OF SUPPLIES AND ACCOUNTS: Civilian assistant, $2,500; two chief bookkeepers at $2,000 each; clerks—four of class four, eight of class three, seven of class two, fifteen of class one, ten at $1,100 each, twenty-eight at $1,000 each, twelve at $900 each; two copyists, at $840 each; five assistant messengers; messenger boys—one at $600, three at $400 each; laborer; two laborers, at $600 each; in all, $113,040.

BUREAU OF MEDICINE AND SURGERY: Chief clerk, $2,000; clerks—two of class four, one of class three, one of class two, one of class one, two at $1.100 each, three at $1.000 each; copyist, $840; assistant messenger; laborer; driver for naval dispensary, $600; and laborer for naval dispensary, $480; in all, $18,300.

BUREAU OF YARDS AND DOCKS: Chief clerk, $2 000; draftsman and clerk, $1,800; clerks—one of class three, one of class two, two of class one, one at $1,100, six at $1,000 each; assistant messenger; three messenger boys, at $600 each; and two laborers; in all, $20,140.

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The services of skilled draftsmen and such other technical services as the Secretary of the Navy may deem necessary may be employed only in the Bureau of Yards and Docks to carry into effect the various appropriations and allotments thereunder and be paid from such appropriations and allotments: *Provided*, That the expenditures on this account for the fiscal year nineteen hundred and thirteen shall not exceed $50 000. A statement of the persons employed hereunder, their duties, and the compensation paid to each, shall be made to Congress each year in the annual estimates.

NAVAL MILITIA OFFICE: For the following, now authorized and being paid from the appropriation for "Arming and equipping Naval Militia," namely, chief clerk, $1,600; stenographer, $1,200; messenger boy, $600; in all, $3,400, which sum shall be paid from the appropriation for "Arming and equipping Naval Militia" for the fiscal year nineteen hundred and thirteen, and no other or further sums shall be expended from said appropriation for or on account of said Naval Militia office; but all other expenses on account thereof shall be paid out of the appropriations for contingent expenses and for printing and binding for the Navy Department, as in the case of other like expenses of that department.

CONTINGENT EXPENSES, NAVY DEPARTMENT: For professional and technical books and periodicals, law books, and necessary reference books, including city directories, railway guides, freight, passenger, and express tariff books, for department library, $2,000.

For stationery, furniture, newspapers, plans, drawings, drawing materials, horses and wagons to be used only for official purposes, street-car tickets not exceeding $250, freight, expressage, postage, typewriters and computing machines and exchange of same, and other absolutely necessary expenses of the Navy Department and its various bureaus and offices, $40,000; it shall not be lawful to expend, for any of the offices or bureaus of the Navy Department at Washington, any sum out of appropriations made for the Naval Establishment for any of the purposes mentioned or authorized in this paragraph.

Toward installing steel fireproof file cases and file boxes required to furnish additional filing space and to replace old wooden file cases and file boxes, $2 500.

For the rental of the Mills Building during the fiscal year nineteen hundred and thirteen, $24 500.

No part of any appropriations made for the naval service shall be expended for any of the purposes herein provided for on account of the Navy Department at Washington, District of Columbia, except for personal services in certain bureaus, as herein expressly authorized.

DEPARTMENT OF THE INTERIOR.

OFFICE OF THE SECRETARY: For compensation of the Secretary of the Interior, $12,000; First Assistant Secretary, $5,000; Assistant Secretary, $4 500; chief clerk, including $500 as superintendent of buildings, who shall be chief executive officer of the department and who may be designated by the Secretary of the Interior to sign official papers and documents during the temporary absence of the Secretary and the Assistant Secretaries of the department, $4,000; assistant to the Secretary, $2,750; assistant attorney, $2,500; two special inspectors, whose employment shall be limited to the inspection of offices and

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the work in the several offices under the control of the Department of the Interior, at $2,500 each; six inspectors, at $2,500 each; chief disbursing clerk. $2,250; clerk in charge of supplies, $2,250; clerk in charge of mails, files, and archives, $2,250; clerk in charge of publications, $2,250; private secretary to the Secretary of the Interior, $2,500; clerks—four at $2 000 each, thirteen of class four, eighteen of class three, twenty-one of class two, twenty-four of class one, three at $1,000 each; returns office clerk, $1,600; female clerk, to be designated by the President, to sign land patents, $1,200; eight copyists; multigraph operator, $900; assistant multigraph operator, $720; typewriter repairer, $900; two telephone switchboard operators; nine messengers; seven assistant messengers; twenty-one laborers; skilled mechanics—one at $900 and one at $720; two carpenters, at $900 each; plumber, $900; electrician, $1,000; laborer, $600; six laborers, at $480 each; packer, $660; two conductors of elevator, at $720 each; eight charwomen; captain of the watch, $1,200; forty watchmen; additional to two watchmen acting as lieutenants of watchmen, at $120 each; engineer, $1,200; assistant engineer, $1,000; seven firemen; clerk to sign, under the direction of the Secretary, in his name and for him, his approval of all tribal deeds to allottees and deeds for town lots made and executed according to law for any of the Five Civilized Tribes of Indians in the Indian Territory, $1,200; in all, $275,570.

For employees. for the proper protection, heating, care, and preservation of the old Post Office Department building, occupied by the Department of the Interior, namely: Engineer and electrician, $1,600; assistant engineer, $1,000; four firemen; three watchmen, acting as lieutenants, at $840 each; twenty watchmen; conductor of elevator, $720; fourteen laborers; nine laborers, at $480 each; three skilled mechanics (painter, carpenter, and plumber), at $900 each; in all, $39 380.

Office of Assistant Attorney General: Assistant attorneys—one at $3,000, two at $2,750 each, four at $2 500 each, seven at $2,250 each, eleven at $2 000 each; medical expert, $2,000; four clerks of class three, one of whom shall act as stenographer and one of whom shall be a stenographer and typewriter; clerk of class one; in all, $65,850.

For per diem in lieu of subsistence of two special inspectors, Department of the Interior, while traveling on duty, at a rate to be fixed by the Secretary of the Interior, not exceeding $4 per day, and for actual necessary expenses of transportation (including temporary employment of stenographers, typewriters, and other assistance outside of the District of Columbia, and for incidental expenditures necessary to the efficient conduct of examinations), to be expended under the direction of the Secretary of the Interior, $4,500.

For traveling expenses of six inspectors, at $4 per day, when actually employed on duty in the field, exclusive of transportation and sleeping-car fare, in lieu of all other expenses now authorized by law, and for incidental expenses of negotiation, inspection, and investigation, including telegraphing and expenses to and going from the seat of government and while remaining there under orders and direction of the Secretary of the Interior, for a period not to exceed twenty days, $9,600.

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GENERAL LAND OFFICE: Commissioner of the General Land Office, $5,000; assistant commissioner, $3,500; chief clerk, $2,750; chief law clerk, $2,500; two law clerks, at $2,200 each; three law examiners of surveyors general and district land offices, at $2,000 each; recorder, $2,000; chiefs of division—two at $2,400 each, ten at $2,000 each; assistant chief of division, $2,000; law examiners—thirteen at $2,000 each, ten at $1,800 each, eighteen at $1,600 each; clerks—twenty-seven of class four, fifty-one of class three, seventy-four of class two, seventy-seven of class one, sixty-five at $1,000 each; sixty-five copyists; twenty-six copyists, at $720 each; two messengers; ten assistant messengers; messenger boys—ten at $600 each, six at $480 each; six skilled laborers, who may act as assistant messengers when required, at $660 each; sixteen laborers; laborer, $480; packer, $720; depositary acting for the commissioner as receiver of public moneys, $2,000; clerk and librarian, $1,000; in all, $630,650.

For per diem in lieu of subsistence of examiners and of clerks detailed to inspect offices of United States surveyors general and other offices in surveying service, to investigate fraudulent land entries, trespasses on the public lands, and cases of official misconduct, while traveling on duty, at a rate to be fixed by the Secretary of the Interior, not exceeding $4 per day, and for actual necessary expenses of transportation, including necessary sleeping-car fares, and for employment of stenographers and other assistants when necessary to the efficient conduct of examinations, and when authorized by the Commissioner of the General Land Office, $8,500.

For law books for the law library of the General Land Office, $400.

For connected and separate United States and other maps, prepared in the General Land Office, $20,000: *Provided*, That of the United States maps procured hereunder seven thousand two hundred copies shall be delivered to the Senate and fourteen thousand four hundred copies shall be delivered to the House of Representatives, five hundred copies shall be delivered to the Commissioner of the General Land Office, and the residue shall be delivered to the Secretary of the Interior for distribution. And all maps delivered to the Senate and House of Representatives hereunder shall be mounted with rollers ready for use.

For separate State and Territorial maps, including maps showing areas designated by the Secretary of the Interior under the enlarged homestead acts, prepared in the General Land Office, $3,300.

For appliances in connection with filing system in the General Land Office, $3,000.

INDIAN OFFICE: Commissioner of Indian Affairs, $5,000; assistant commissioner, $3,500; second assistant commissioner, who shall also perform the duties of chief clerk, $2,250; financial clerk, $2,250; chiefs of division—one at $2,250, one at $2,000; law clerk, $2,000; assistant chief of division, $2,000; private secretary, $1,800; clerks—fourteen of class four, twenty-five of class three, twenty-four of class two, two at $1,500 each, forty-three of class one, twenty-three at $1,000 each; stenographer, $1,000; twenty-nine copyists; messenger; four assistant messengers; four messenger boys, at $360 each; in all, $231,710.

For the fiscal year nineteen hundred and fourteen and annually thereafter estimates in detail shall be submitted for all personal serv-

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ices required in the Indian Office, and after the end of the fiscal year nineteen hundred and thirteen it shall not be lawful to employ in said office any personal services other than those specificially appropriated for in the legislative, executive, and judicial appropriation acts, except temporary details of field employees for service connected solely with their respective employments.

PENSION OFFICE: Commissioner of Pensions, $5,000; Deputy Commissioner, $3,600; chief clerk, $2,500; assistant chief clerk, $2,000; medical referee, $3,000; assistant medical referee, $2,250; two qualified surgeons, at $2,000 each, fifteen medical examiners, at $1,800 each; eight chiefs of division, at $2,000 each; law clerk, $2,250; chief of board of review, $2,250; fifty-seven principal examiners, at $2,000 each; private secretary, to be selected and appointed by the Commissioner of Pensions, $2,000; sixteen assistant chiefs of division, at $1,800 each; three stenographers, at $1,600 each; clerks—ninety-five of class four, one hundred of class three, two hundred and seventy-five of class two, two hundred and ninety-five of class one, sixty-five, at $1,000 each; thirty copyists; twenty-seven messengers; twelve assistant messengers; seventeen skilled laborers, at $660 each twenty messenger boys, at $400 each; superintendent of building, $1,400; twenty-three laborers; ten female laborers, at $400 each; fifteen charwomen; one painter, and one cabinetmaker, skilled in their trades, at $900 each; captain of the watch, $840; three sergeants of the watch, at $750 each; twenty watchmen; for the following under the chief clerk of the Interior Department: Engineer, $1,200; and two firemen; in all, $1,478,100.

No transfers from the Pension Office existing July first, nineteen hundred and twelve, shall be returned to said office.

For per diem, when absent from home and traveling on duty outside the District of Columbia, for special examiners or other persons employed in the Bureau of Pensions, detailed for the purpose of making special investigations pertaining to said bureau, in lieu of expenses for subsistence, not exceeding $3 per day, and for actual and other necessary expenses, including telegrams, $215,000.

For completing the installation of the card-index system of the records of the Pension Office, $5,000.

For an additional force of forty-five special examiners for one year, at $1,300 each, $58,500, and no person so appointed shall be employed in the State from which he is appointed; and any of those now employed in the Pension Office or as special examiners may be reappointed if they be found to be qualified.

PATENT OFFICE: Commissioner of Patents $5,000; first assistant commissioner, who shall perform such duties pertaining to the office of commissioner as may be assigned to him by the commissioner, $4,500; assistant commissioner, who shall perform such duties pertaining to the office of commissioner as may be assigned to him by the commissioner, $3,500; chief clerk, who shall be qualified to act as principal examiner, $3,000; two law examiners, at $2,750 each; three examiners in chief, at $3,500 each; examiner of interferences, $2,700; examiner of trade-marks and designs, $2,700; six assistant examiners of trade-marks and designs, at $1,500 each; examiner of classification, $3,600; forty-three principal examiners, at $2,700 each; sixty-three first assistant examiners, at $2,400 each; seventy-three second assistant examiners, at $2,100 each; eighty-eight third assistant examiners, at

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$1,800 each; one hundred and ten fourth assistant examiners, at $1,500 each; financial clerk, who shall give bonds in such amount as the Secretary of the Interior may determine, $2,250; librarian, $2,000; six chiefs of division, at $2,000 each; three assistant chiefs of division, at $1,800 each; private secretary, to be selected and appointed by the Commissioner of Patents, $1,800; translator of languages, $1,800; clerks—nine of class four, nine of class three, seventeen of class two, one hundred and thirty of class one, ninety at $1,000 each; three skilled draftsmen, at $1,200 each; four draftsmen, at $1,000 each; messenger and property clerk, $1,000; ninety copyists; fifty copyists, at $720 each; four messengers; twenty-five assistant messengers; fourteen laborers, at $600 each; forty-five laborers, at $480 each; forty messenger boys, at $360 each; in all, $1,311,010.

For purchase of professional and scientific books and expense of transporting publications of patents issued by the Patent Office to foreign governments, $2,500.

For purchase of law and other reference books, $500.

For producing copies of the weekly issue of patents, designs, and trade-marks; for the reproduction of copies of drawings and specifications of exhausted patents and other papers, $140,000.

For investigating the question of the public use or sale of inventions for two years or more prior to filing applications for patents, and such other questions arising in connection with applications for patents as may be deemed necessary by the Commissioner of Patents; and for expense attending defense of suits instituted against the Commissioner of Patents, $500.

For the share of the United States in the expense of conducting the International Bureau at Berne, Switzerland, $750.

BUREAU OF EDUCATION: Commissioner of Education, $5,000; chief clerk, $2,000; specialist in higher education, $3,000; for the investigation of rural education, industrial education, and school hygiene, including salaries, $15,000; editor, $2,000; statistician, $1,800; specialists in charge of land-grant college statistics, $1,800; translator, $1,800; collector and compiler of statistics, $2,400; specialists—one in foreign educational systems, and one in educational systems, at $1,800 each; clerks—two of class four, three of class three, four of class two, eight of class one, seven at $1,000 each; six copyists; two copyists, at $800 each; copyists, $720; two skilled laborers, at $840 each; messenger; one assistant messenger; three laborers, at $480 each; laborer, $400; in all, $81,800.

For books for library, current educational periodicals, other current publications, and completing valuable sets of periodicals, including payment in advance for subscriptions to publications, $500.

For collecting statistics for special reports and circulars of information, $4,000.

For the purchase, distribution, and exchange of educational documents, and for the collection, exchange, and cataloguing of educational apparatus and appliances, textbooks, and educational reference books, articles of school furniture and models of school buildings illustrative of foreign and domestic systems and methods of education, and for repairing the same, $2,500.

OFFICE OF THE SUPERINTENDENT OF THE CAPITOL BUILDING AND GROUNDS: Superintendent of the Capitol Building and Grounds,

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$6,000; chief clerk, $2,000; chief electrical engineer, $3,000; civil engineer, $2,400; two draftsmen, at $1,200 each; clerk, $1,600; stenographer and typewriter, $1,000; compensation to disbursing clerk, $1,000; messenger; person in charge of the heating of the Supreme Court and central portion of the Capitol, $1,000; laborer in charge of water-closets in central portion of the Capitol, $660; seven laborers for cleaning Rotunda, corridors, Dome, and old library portion of Capitol, at $660 each; two laborers in charge of public closets of the House of Representatives and in the terrace, at $720 each; bookkeeper and accountant, $1,800; and one stenographer, at $720; in all, $30,480.

CONTINGENT EXPENSES, DEPARTMENT OF THE INTERIOR: The following sums, which shall be so apportioned as to prevent deficiencies therein, namely: For contingent expenses of the office of the Secretary of the Interior and the bureaus, offices, and buildings of the Interior Department, including $7,500 for the Civil Service Commission: For furniture, carpets, ice, lumber, hardware, dry goods, advertising, telegraphing, street car tickets not exceeding $250, expressage, wagons and harness, motor trucks, motorcycles, and bicycles, maintenance and exchange of same, food, forage, and shoeing of horses, diagrams, awnings, filing and labor-saving devices, constructing model and other cases and furniture, and other necessary expenses not hereinbefore provided for, including traveling expenses, fuel and lights, typewriting and adding machines and exchange of same, $122,000.

For stationery, including tags, labels, index cards, cloth-lined wrappers, and specimen bags, printed in the course of manufacture, and such printed envelopes as are not supplied under contracts made by the Postmaster General, for the Department of the Interior and its several bureaus and offices, including not to exceed $5,000 for the Civil Service Commission, $69,500; and, in addition thereto, sums amounting to $44,400 shall be deducted from other appropriations made for the fiscal year nineteen hundred and thirteen, as follows: Contingent expenses of pension agencies, $18,000; protecting public lands and timber, $2.000; contingent expenses of offices of surveyors general, $2,600; Capitol building and repairs, $300; Geological Survey, $2,100; Bureau of Mines, $1,200; Indian warehouses, $500; Five Civilized Tribes of Indians, $1,000; Indian schools, $17,000; and said sums so deducted shall be credited to and constitute, together with the first-named sum of $69,500, the total appropriation for stationery for the Department of the Interior and its several bureaus and offices for the fiscal year nineteen hundred and thirteen.

For professional and scientific books, law books, and books to complete broken sets, periodicals, directories, and other books of reference relating to the business of the department, $1,000, of which sum $250 may be used for the Civil Service Commission.

For rent of buildings for the Department of the Interior, namely: For Geological Survey, $29,200; additional rooms for the engraving and printing divisions of the Geological Survey, $1,200; rent of additional rooms for the Geological Survey, $2,500; Civil Service Commission, $16,875; in all, $49,775.

For rent of basement of the addition to the main building of the Geological Survey, required for additional storage of documents, maps, and so forth, and for workroom, $1,500.

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For rent of additional office accommodations for the Geological Survey in the main building of the survey, Washington, District of Columbia (formerly occupied by the Reclamation Service), $3,000.

For rent of building for the Bureau of Mines, $10,000.

For postage stamps for the Department of the Interior and its bureaus, as required under the Postal Union, to prepay postage on matter addressed to Postal Union countries, $3,500.

SURVEYORS GENERAL AND THEIR CLERKS.

For surveyor general and ex officio secretary of the district of Alaska, $4,000; clerks in his office, $7,000; in all, $11,000.

For rent of offices for surveyor general, pay of messenger, stationery, printing, binding, drafting instruments, typewriters, books of reference for office use, furniture, fuel, lights, and other incidental expenses, including the exchange of typewriters, $2,500.

For surveyor general of Arizona, $3,000; and for the clerks in his office, $13,000; in all, $16,000.

For rent of office for the surveyor general, stationery, binding records, books of reference for office use, typewriter and repairs, repairs of furniture, freight and drayage, filing cases, drafting supplies and tables, and other incidental expenses, including the exchange of typewriters, $1,800.

For surveyor general of California, $3,000; and for the clerks in his office, $11,400; in all, $14,400.

For pay of messenger, stationery, binding records, repairing maps, repairs to locks, clocks, furniture, batteries, and typewriter, towels, telephone, books of reference for office use, and other incidental expenses, including the exchange of typewriters, $1,500.

For surveyor general of the State of Colorado, $3,000; and for the clerks of his office, $22,000; in all, $25,000.

For rent of office for the surveyor general, pay of messenger, stationery, printing and binding, furniture and repairs, muslin for mounting plats, drafting instruments, record books, indexing volumes of letters, ice, telephone, post-office box rent and register stamps, books of reference for office use, typewriter, and other incidental expenses, including the exchange of typewriters, $4,000.

For surveyor general of Idaho, $3,000; and for the clerks in his office, $16,000; in all, $19,000.

For pay of messenger, stationery, binding, printing, drafting instruments, post-office box rent, furniture, typewriters, ice, books of reference for office use, and other incidental expenses, including the exchange of typewriters, $1,500.

For surveyor general of Montana, $3,000; and for the clerks in his office, $20,000; in all, $23,000.

For pay of messenger, lights, post-office box rent, ice, stationery, printing, binding, furniture, books of reference for office use, and other incidental expenses, including the exchange of typewriters, $1,500.

For surveyor general of Nevada, $3,000; and for the clerks in his office, $8,000; in all, $11,000.

For stationery, and drawing materials, post-office box rent, registering letters, telephone, ice, repair of furniture, books of reference

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for office use, and other incidental expenses, including the exchange of typewriters, $1,000.

For surveyor general of New Mexico, $3,000; and for clerks in his office, $15,500; in all, $18,500.

For pay of messenger, stationery, printing, drafting instruments, plats, drawing paper, binding records, telephone, registration of letters, post-office box rent, drayage, towels, books of reference for office use, and other incidental expenses, including the exchange of typewriters, $1,500.

For surveyor general of Oregon, $3,000; and for the clerks in his office, $13,000; in all, $16,000.

For stationery, telephone, towels, binding, post-office box rent, books of reference for office use, and other incidental expenses, including the exchange of typewriters, $900.

For surveyor general of South Dakota, $2,000.

For the clerks in his office, $4,000.

For rent of office for the surveyor general, pay of messengers, stationery supplies, drafting instruments, fuel, ice, binding records, post-office box rent, telegrams, registration of letters, towels, furniture and typewriter repairs, books of reference for office use, and other incidental expenses, including the exchange of typewriters, $800.

For surveyor general of Utah, $3,000; and for the clerks in his office, $14,000; in all, $17,000.

For pay of janitor, stationery, plats and supplies, printing and binding, drawing tables, drafting instruments, post-office box rent, typewriters, drayage, towels, books of reference for office use, and other incidental expenses, including the exchange of typewriters, $1,000.

For surveyor general of Washington, $3,000; and for the clerks in his office, $11,000; in all, $14,000.

For rent of office for the surveyor general, pay of janitor, furniture and repairs, stationery, binding records, books, blanks, books of reference for office use, and other incidental expenses, including the exchange of typewriters, $1,500.

For surveyor general of Wyoming, $3,000, and for the clerks in his office, $17,000; in all, $20,000.

For pay of messenger, stationery, and supplies, lights, printing, binding, books, post-office box rent, drafting instruments, mounting maps, ice, towels, furniture and repairs, books of reference for office use, and other incidental expenses, including the exchange of typewriters, $1,200.

That no expenses chargeable to the foregoing appropriations for clerk hire and incidental expenses in the offices of the surveyors general shall be incurred by the respective surveyors general in the conduct of said offices, except upon previous specific authorization by the Commissioner of the General Land Office.

POST OFFICE DEPARTMENT.

OFFICE POSTMASTER GENERAL: For Postmaster General, $12,000; chief clerk, Post Office Department, including $500 as superintendent of Post Office Department buildings, $4,000; private secretary, $2,500; disbursing clerk, $2,250; bookkeeper and accountant, $1,800; two stenographers, at $1,600 each; appointment clerk, $2,000; clerk,

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assistant to chief clerk, $2,000; clerks—two of class four, five of class three, including assistant printing clerk, six of class two, three of class one, four, at $1,000 each; three, at $900 each; curator of museum, $1,000; telephone switchboard operator; assistant telephone switchboard operator; messenger in charge of mails, $900; messenger; two assistant messengers; page, $360; engineer, $1,400; eight assistant engineers, at $1,000 each; electrician, $1,400; two assistant electricians, at $1,200 each; three dynamo tenders, at $900 each; fireman, who shall be a blacksmith, and fireman, who shall be a steam fitter, at $900 each; ten elevator conductors, at $720 each; seventeen firemen; carpenters—one at $1,200, one at $1,000; two, at $900 each; captain of the watch, $1,000; additional to two watchmen acting as lieutenant of watchmen, at $120 each; twenty-four watchmen; foreman of laborers, $800; forty-five laborers; plumber and awning maker, at $900 each; female laborers—one at $540, three at $500 each, three at $480 each; forty-five charwomen; in all, $172,150.

Division of Post-office Inspectors: Chief inspector, $4,000; chief clerk, $2,000; clerks—three of class four, eight of class three, twelve of class two, sixteen of class one, fourteen at $1,000 each, fifteen at $900 each; three assistant messengers; laborer; in all, $90,520.

Division of the Purchasing Agent: Purchasing agent, $4,000; chief clerk, $2,000; clerks—one of class four, one of class three, one of class two, two of class one, two at $1,000 each; assistant messenger; actual and necessary expenses of the purchasing agent while traveling on business of the Post Office Department, $500; in all, $16,420.

Division of Assistant Attorney General for the Post-Office Department: Assistant attorneys—one at $2,750, one at $2,000; law clerk, $1,800; clerks—two of class four, one of class three, three of class two, one of class one, one at $1,000, one at $900; assistant messenger; in all, $19,770.

Office First Assistant Postmaster General: First Assistant Postmaster General, $5,000; chief clerk, $2,500; superintendent division of salaries and allowances, $4,000; assistant superintendent division of salaries and allowances, $2,250; chief division of correspondence, $2,000; clerks—eight of class four, seven of class three, eleven of class two, eight of class one, four at $1,000 each, eight at $900 each; messenger; four assistant messengers; laborer; two pages, at $360 each; in all, $82,650.

Division of postmasters' appointments: Superintendent, $3,000; two assistants, at $2,000 each; clerks—three of class four, fourteen of class three, ten of class two, six of class one, four at $1,000 each, two at $900 each; two messengers; in all, $63,480.

Division of city delivery: Superintendent, $3,000; assistant superintendent, $2,000; clerks—three of class three, two of class two, seven of class one, four at $1,000 each, two at $900 each; messenger; laborer; in all, $28,300.

Office Second Assistant Postmaster General: Second Assistant Postmaster General, $5,000; chief clerk, $2,500; superintendent division of railway adjustments, $3,000; assistant superintendent division of railway adjustments, $2,250; superintendent division of foreign mails, $3,000; assistant superintendent division of foreign mails, $2,000; superintendent division of inspection, $2,000; superintendent division of equipment, $2,000; clerks—eleven of class four

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(three transferred to office of Fourth Assistant), twenty-four of class three (seventeen transferred to office of Fourth Assistant), twenty-four of class two (ten transferred to office of Fourth Assistant), fourteen of class one (fourteen transferred to office of Fourth Assistant), twelve at $1,000 each (four transferred to office of Fourth Assistant), five at $900 each (two transferred to office of Fourth Assistant); messenger in charge of mails, $900; five assistant messengers (two transferred to office of Fourth Assistant); page, $480; in all, $151,830.

Division of Railway Mail Service: General superintendent, $4,000; assistant general superintendent, $3,500; chief clerk, $2,000; clerks—two of class four, five of class three, six of class two, five of class one, three at $1,000 each, two at $900 each; in all, $40,300.

Office Third Assistant Postmaster General: Third Assistant Postmaster General, $5,000; chief clerk, $2,500; superintendent Division of Stamps, $2,750; superintendent Division of Finance, who shall give bond in such amount as the Postmaster General may determine for the faithful discharge of his duties, $2,250; assistant superintendent Division of Finance, $2,000; superintendent Division of Classification, $2,750; chief Division of Redemption, $2,000; superintendent Division of Registered Mails, $2,500; clerks—nine of class four, twenty-three of class three, thirty-two of class two, forty-four of class one, twenty-eight at $1,000 each, eighteen at $900 each; messenger; five assistant messengers; twelve laborers; page, $360; in all, $229,270.

Division of Money Orders: Superintendent, $3,500; chief clerk, $2,250; clerks—three of class four, seven of class three, eleven of class two, eleven of class one, ten at $1,000 each, ten at $900 each; assistant messenger; four laborers; in all, $73,310.

Office Fourth Assistant Postmaster General: Fourth Assistant Postmaster General, $5,000; chief clerk, $2,500; superintendent, Division of Rural Mails, $3,000; assistant superintendent, Division of Rural Mails, $2,000; chief clerk, Division of Rural Mails, $2,000 (in lieu of superintendent, Division of Contracts, transferred from office of Second Assistant); clerks—seven of class four (including three transferred from office of Second Assistant), twenty of class three (including seventeen transferred from office of Second Assistant), twenty-two of class two (including ten transferred from office of Second Assistant), forty-four of class one (including fourteen transferred from office of Second Assistant), forty-three at $1,000 each (including four transferred from office of Second Assistant), ten at $900 each (including two transferred from office of Second Assistant); stenographer, $1,600; stenographer, $1,200; two messengers; three assistant messengers (including two transferred from office of Second Assistant); two laborers; two pages, at $360 each; in all, $203,380.

Division of Dead Letters: Superintendent, $2,750; clerk of class four, who shall be chief clerk; clerks—five of class four, eight of class three, ten of class two, thirty-four of class one, thirty-eight at $1,000 each, thirty-nine at $900 each; messenger; three assistant messengers; fifteen laborers; six female laborers, at $480 each; in all, $170,030.

Division of Supplies: Superintendent, $2,500; assistant superintendent, $2,000; clerks—two of class four, three of class three, eleven of class two, eighteen of class one, sixteen at $1,000 each,

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eight at $900 each; messenger; eleven assistant messengers; eighteen laborers; page, $360; in all, $94,100.

Division of Topography: For topographer, $2,750; assistant topographer, $2,000; skilled draftsmen—four at $1,800 each, four at $1,600 each, four at $1,400 each, five at $1,200 each; examiner, $1,200; clerk of class two; map mounter, $1,200; mechanic, $1,000; copyists of maps—seven at $1,000 each, four at $900 each; assistant map mounter, $720; assistant messenger; in all, $46,790.

CONTINGENT EXPENSES, POST OFFICE DEPARTMENT: For stationery and blank books, index and guide cards, folders, and binding devices, including amount necessary for the purchase of free penalty envelopes, $20,000.

For fuel and repairs to heating, lighting, and power plant, including repairs to elevators, the purchase and exchange of tools and electrical supplies, and removal of ashes, $35,000.

For gas and electric lights, $350.

For telegraphing, $4,000.

For painting, $2,000.

For purchase, exchange, hire, and keeping of horses and vehicles, and repair of vehicles and harness, to be used only for official purposes, $2,500.

For miscellaneous items, including the exchange of typewriters, adding machines, and other labor-saving devices; street car tickets not exceeding $200; plumbing, floor coverings; and postage stamps for correspondence addressed abroad which is not exempt under Article Eleven of the Rome convention of the Universal Postal Union, $20,000, of which sum not exceeding $3,985 may be expended for telephone service, and not exceeding $1,500 may be expended for law books, books of reference, railway guides, city directories, books necessary to conduct the business of the department; and repairs to the Post Office Department building.

For furniture and filing cabinets, $5,000.

For rent of a suitable building for storage of the files of the Post Office Department, $3,000.

For rent of stables, $500.

For the publication of copies of the Official Postal Guide, including not exceeding three thousand copies for the use of the executive departments, $24,000.

For miscellaneous expenses in the Division of Topography in the preparation and publication of post-route maps and rural delivery maps or blue prints, including tracing for photolithgraphic reproduction, $26,000. And the Postmaster General may authorize the sale to the public of post-route maps and rural-delivery maps or blue prints at the cost of printing and ten per centum thereof added, the proceeds of such sales to be used as a further appropriation for the preparation and publication of post-route maps and rural-delivery maps or blue prints. Of this amount $100 may be expended in the purchase of atlases, geographical and technical works needed in the Division of Topography.

No part of any appropriations made for the service of the Post Office Department in conformity with the Act of July second, eighteen hundred and thirty-six, shall be expended for any of the purposes herein provided for on account of the Post Office Department at Washington, District of Columbia.

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DEPARTMENT OF JUSTICE.

OFFICE OF THE ATTORNEY GENERAL: Attorney General, $12,000; Solicitor General, $10,000; assistant to the Attorney General, $7,000; seven Assistant Attorneys General, at $5,000 each; Assistant Attorney General of the Post Office Department, $5,000; Solicitor of Internal Revenue, $5,000; Solicitor for the Department of State, $5,000; four attorneys, at $5,000 each, one of whom shall have charge of all condemnation proceedings in the District of Columbia and supervise the examination of titles and matters arising from such condemnation proceedings in which the United States shall be a party or have an interest, and no special attorney or counsel, or services of persons other than those provided for herein, shall be employed for such purposes; attorneys—one at $3,750, three at $3,500 each, one at $3,250, twelve at $3,000 each, two at $2,500 each; assistant attorneys—one at $3,500, two at $3,000 each, two at $2,750 each, five at $2,500 each, one at $2,400, two at $2,000 each; assistant examiner of titles, $2,000; chief clerk and ex officio superintendent of the buildings, $3,000; superintendent of buildings, $500; private secretary and assistant to the Attorney General, $3,000; clerk to the Attorney General, $1,600; stenographer to the Solicitor General, $1,600; law clerks—three at $2,000 each, two of class four, clerk in office of the Solicitor of Internal Revenue, $1,800; attorney in charge of pardons, $3,000; superintendent of prisons, $4,000; disbursing clerk, $2,750; appointment clerk, $2,000; Chief of Division of Investigation, $3,500; examiners—three at $2,500 each, four at $2,250 each, two at $2,000 each, three at $1,800 each; librarian, $1,800; clerks—eight of class four, twelve of class three, seven of class two, sixteen of class one, fourteen at $1,000 each, twenty-one at $900 each; chief messenger, $1,000; packer, $900; messenger, $960; five messengers; thirteen assistant messengers; seven laborers; seven watchmen; engineer, $1,200; two assistant engineers, at $900 each; four firemen; two conductors of the elevator, at $720 each; head charwoman, $480; twenty-two charwomen. Division of Accounts: Chief of Division of Accounts, $2,500; chief bookkeeper and record clerk, $2,000; clerks—three of class four, four of class three, six of class two, five of class one, two at $900 each; in all, $424,610.

The administrative audit of all expenditures under the control of the Department of Justice shall hereafter be made in the Division of Accounts of that Department.

CONTINGENT EXPENSES, DEPARTMENT OF JUSTICE: For furniture and repairs, including carpets, file holders, and cases, $4,500.

For books for law library of the department, $3,000.

For purchase of session laws and statutes of the States and Territories for library of department, $500.

For books for office of Solicitor of the Department of Commerce and Labor, $300.

For stationery for department and its several bureaus, $6,500.

For miscellaneous expenditures, including telegraphing, fuel, lights, foreign postage, labor, repairs of buildings, care of grounds, books of reference, periodicals, typewriters and adding machines and exchange of same, street car tickets not exceeding $200, and other necessaries, directly ordered by the Attorney General, $25,000.

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For official transportation, including purchase and exchange, keep, and shoeing of animals, and purchase, exchange, and repairs of wagons and harness, $2,500.

For the rent of buildings and parts of buildings in the District of Columbia used by the Department of Justice, $32,200.

OFFICE OF THE SOLICITOR OF THE TREASURY: Solicitor of the Treasury, $5,000; Assistant Solicitor, $3,000; chief clerk, $2,000; two law clerks, at $2,000 each; two docket clerks, at $2,000 each; clerks—two of class four, two of class three, two of class two; assistant messenger; laborer; in all, $28,980.

For law books for office of the Solicitor of the Treasury, $300.

OFFICE OF THE SOLICITOR OF THE DEPARTMENT OF COMMERCE AND LABOR: Solicitor of the Department of Commerce and Labor, $5,000; Assistant Solicitor, $3,000; clerks—three of class four, two of class three, three of class two, three of class one; messenger; in all, $25,240.

DEPARTMENT OF COMMERCE AND LABOR.

OFFICE OF THE SECRETARY: Secretary of Commerce and Labor, $12,000; Assistant Secretary, $5,000; private secretary to the Secretary, $2,500; confidential clerk to the Secretary, $1,800; private secretary to Assistant Secretary, $2,100; chief clerk and superintendent, $3,000; disbursing clerk, $3,000; Chief of Appointment Division, $2,500; Chief, Division of Publications, $2,500; Chief, Division of Supplies, $2,100; clerks—ten of class four, eleven of class three, twelve of class two, eleven of class one, ten at $1,000 each, six at $900 each; two telephone operators, at $720 each; messenger to the Secretary, $1,000; five messengers; ten assistant messengers; seven messenger boys, at $480 each; engineer, $1,000; three skilled laborers, at $840 each; two conductors of elevators, at $720 each; two firemen, at $660 each; eighteen laborers; five laborers, at $480 each; cabinetmaker, $1,000; carpenter, $900; chief watchman, $900; eleven watchmen; eighteen charwomen; in all, $170,300.

BUREAU OF CORPORATIONS: Commissioner of Corporations, $5,000; deputy commissioner, $3,500; chief clerk, $2,500; clerk to commissioner, $1,800; clerks—four of class four, four of class three, six of class two, ten of class one, fifteen at $1,000 each; sixteen copyists; messenger; assistant messenger; three messenger boys, at $480 each; in all, $79,200.

For compensation and per diem, to be fixed by the Secretary of Commerce and Labor, of special attorneys, special examiners, and special agents, for the purpose of carrying on the work of said bureau, as provided by the Act approved February fourteenth, nineteen hundred and three, entitled "An Act to establish the Department of Commerce and Labor," the per diem to be, subject to such rules and regulations as the Secretary of Commerce and Labor may prescribe, in lieu of subsistence, at a rate not exceeding $4 per day to each of said special attorneys, special examiners, and special agents, and also of other officers and employees in the Bureau of Corporations while absent from their homes on duty outside of the District of Columbia, and for their actual necessary traveling expenses, including necessary sleeping-car fares; in all, $175,000.

BUREAU OF LABOR: Commissioner of Labor, $5,000; chief statistician, who shall also perform the duties of chief clerk, $3,000; four

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statistical experts, at $2,000 each; clerks—five of class four, five of class three, six of class two, twelve of class one, nine at $1,000 each; two copyists; two assistant messengers; two laborers; special agents—four at $1,800 each, six at $1,600 each, eight at $1,400 each, four at $1,200 each; in all, $102,160.

For per diem, in lieu of subsistence, of special agents and employees while traveling on duty away from their homes and outside of the District of Columbia, at a rate not to exceed $3 per day, and for their transportation, and for employment of experts and temporary assistance, to be paid at the rate of not exceeding $8 per day, and for traveling expenses of officers and employees, and for the purchase of reports and materials for the reports and bulletins of the Bureau of Labor, and for subvention to "International Association for Labour Legislation," and necessary expenses connected with representation of the United States Government therein, $64,090.

For books, periodicals, and newspapers for the library the sum of $100 may be expended for newspapers for the purpose of procuring strike data, and the annual subscriptions for newspapers and periodicals for the bureau may be paid in advance, $1,000.

To enable the Secretary of Commerce and Labor to provide and pay for the medical examination of employees of the United States receiving compensation for injuries under the provisions of the Act of May thirtieth, nineteen hundred and eight, as directed by section five of said Act, $3,000.

Bureau of Lighthouses: Commissioner, $5,000; deputy commissioner, $4,000; chief constructing engineer, $4,000; superintendent of naval construction, $3,000; chief clerk, $2,400; clerks—one at $2,000, two of class four, one of class three, two of class two, six of class one, five at $1,000 each, seven at $900 each, one at $840, one at $720; messenger; assistant messenger; two messenger boys, at $480 each; assistant engineers—one at $3,000, one at $2,400, one at $2,250; draftsmen—one at $1,800, one at $1,560, one at $1,440, one at $1,200; in all, $64,630.

Census Office: For Director, $6,000; four chief statisticians, at $3,000 each; chief clerk, $2,500; geographer, $2,000; stenographer, $1,500; eight expert chiefs of division, at $2,000 each; clerks—eleven of class four, twenty of class three, thirty-two of class two, three hundred of class one, eighty-three at $1,000 each, eighty-seven at $900 each; engineer, $1,000; electrician, $1,000; skilled laborers—two at $1,000 each, four at $900 each, ten at $720 each; six watchmen; three messengers; three firemen; five assistant messengers; eight unskilled laborers, at $720 each; four messenger boys, at $480 each; fourteen charwomen; in all, $696,340.

In certifying eligibles from the civil-service registers for the purpose of appointment to positions of clerkships in the Census Office hereinbefore provided for at salaries of $1,200 or less, the Civil Service Commission shall, so far as practicable under the law of apportionment, certify those who have had at least one year's experience in census work.

Temporary clerks: In addition to the employees hereinbefore provided for, the Secretary of Commerce and Labor may appoint, on the recommendation of the Director of the Census, for such time as may be necessary, but not beyond June thirtieth, nineteen hundred and thirteen, not exceeding one hundred and seventy-five temporary

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clerks, from among the employees of the Thirteenth Census force, such clerks to be paid salaries not greater than nine hundred dollars per annum, or to be paid on a piece-price basis, and for the payment of the compensation of said temporary clerks there is appropriated the sum of $120,000.

For securing information for census reports, provided for by law, semimonthly reports of cotton production, and periodical reports of stocks of baled cotton in the United States and of the domestic and foreign consumption of cotton; per diem compensation of special agents and expenses of the same and of the detailed employees, whether employed in Washington, District of Columbia, or elsewhere; the cost of transcribing State, municipal, and other records; the temporary rental of quarters outside of the District of Columbia; for supervising agents, and the employment by them of such temporary service as may be necessary in collecting the statistics required by law: *Provided*, That the compensation of not to exceed five special agents provided for in this paragraph may be fixed at an amount not to exceed $8 per day, $342,000.

For rental of quarters, $22,080.

For stationery, $10,000.

For furniture, carpets, ice, lumber, hardware, dry goods, advertising, telegraph and telephone service, photographic work and supplies, transportation and preparing articles for shipment, horses, wagons, electric truck, and maintenance thereof, diagrams, maps, blue prints, awnings, shelving, filing apparatus, fuel, light, office fixtures, street-car tickets not exceeding $200, and other absolutely necessary expenses, including the purchase, rental, construction, repair, and exchange of mechanical appliances, repairs to the Census Building, and necessary expenses in connection with the prosecution of fraudulent census returns, $15,000.

For purchase of books of reference and periodicals, $500.

For experimental work in developing tabulating machines and repairs to such machinery and other mechanical appliances, including technical and mechanical service in connection therewith, whether performed in Washington, District of Columbia, or elsewhere, and the purchase of necessary machinery and supplies, $26,000.

For printing and binding in connection with the results of the Thirteenth Decennial Census, $272,000.

The Bureau of Manufactures and the Bureau of Statistics, both of the Department of Commerce and Labor, are hereby consolidated into one bureau to be known as the Bureau of Foreign and Domestic Commerce, to take effect July first, nineteen hundred and twelve, and the duties required by law to be performed by the Bureau of Manufactures and the Bureau of Statistics are transferred to and shall after that date be performed by the Bureau of Foreign and Domestic Commerce.

Those certain duties of the Department of Labor, or Bureau of Labor, contained in section seven of the act approved June thirteenth, eighteen hundred and eighty-eight, that established the same, which especially charged it "to ascertain, at as early a date as possible, and whenever industrial changes shall make it essential, the cost of producing articles at the time dutiable in the United States, in leading countries where such articles are produced, by fully specified units of production, and under a classification showing the different elements

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of cost, or approximate cost, of such articles of production, including the wages paid in such industries per day, week, month, or year, or by the piece; and hours employed per day; and the profits of manufacturers and producers of such articles; and the comparative cost of living, and the kind of living; what articles are controlled by trusts or other combinations of capital, business operations, or labor, and what effect said trusts, or other combinations of capital, business operations, or labor have on production and prices," are hereby transferred to and shall hereafter be discharged by the Bureau of Foreign and Domestic Commerce, and it shall be also the duty of said Bureau of Foreign and Domestic Commerce to make such special investigation and report on particular subjects when required to do so by the President or either House of Congress.

Bureau of Foreign and Domestic Commerce: Chief of bureau, $4,000; assistant chiefs of bureau, one at $3,000, one at $2,750; Chief of Division of Consular Reports, $2,500; chief clerk, $2,250; stenographer to chief of the bureau, $1,600; clerks—seven of class four, five of class three, one at $1,500, eleven of class two, fourteen of class one, seventeen at $1,000 each, eleven at $900 each; messenger; five assistant messengers; four laborers; laborer, $480; in all, $104,860.

To enable the Bureau of Foreign and Domestic Commerce to collate and publish the tariffs of foreign countries in the English language, with the equivalents in currency, weights, and measures of the United States of all such foreign terms used in said tariffs, and to furnish information to Congress and the Executive relative to customs laws and regulations of foreign countries, and the purchase of books and periodicals, $10,000.

To further promote and develop the foreign and domestic commerce of the United States, $60,000, to be expended under the direction of the Secretary of Commerce and Labor.

STEAMBOAT-INSPECTION SERVICE: For Supervising Inspector General, $4,000; chief clerk and Acting Supervising Inspector General in the absence of that officer, $2,000; clerks—two of class three, one of class two, one of class one, two at $1,000 each; messenger; in all, $14,640.

Salaries of steamboat inspectors: For salaries of ten supervising inspectors, at $3,000 each, as authorized by section forty-four hundred and four, Revised Statutes United States; for salaries of inspectors of hulls and inspectors of boilers, as authorized by the acts of Congress approved April ninth, nineteen hundred and six, and May twenty-eighth, nineteen hundred and eight, $167,100; for salaries of assistant inspectors, as authorized by the Act of Congress approved April ninth, nineteen hundred and six, as follows: For the port of New York, New York, twenty-seven, at $2,000 each; for the port of New Orleans, Louisiana, four, at $1,800 each; for the port of Baltimore, Maryland, six, at $1,800 each; for the port of Boston, Massachusetts, six, at $1,800 each; for the port of Philadelphia, Pennsylvania, eight, at $1,800 each; for the port of San Francisco, California, eight, at $1,800 each; for the port of Buffalo, New York, four, at $1,600 each; for the port of Milwaukee, Wisconsin, eight, at $1,600 each; for the port of Norfolk, Virginia, four, at $1,600 each; for the port of Seattle, Washington, eight, at $1,600 each; in all, $347,100.

Clerk hire, service at large: For the compensation, not exceeding $1,500 a year to each person, of clerks to boards of steamboat in-

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spectors, to be appointed by the Secretary of Commerce and Labor in accordance with the provisions of the Act of April ninth, nineteen hundred and six, $83,000.

Contingent expenses: For the payment of fees to witnesses; for traveling and other expenses when on official business of the Supervising Inspector General, supervising inspectors, local and assistant inspectors, and clerks; for instruments, furniture, stationery, janitor service, and every other thing necessary to carry into effect the provisions of Title fifty-two, Revised Statutes, of the Act of April fourth, eighteen hundred and eighty-eight, amending the Act of June nineteenth, eighteen hundred and eighty-six, as amended by the Acts of March first, eighteen hundred and ninety-five, February fifteenth, eighteen hundred and ninety-seven, March third, nineteen hundred and five, April ninth, nineteen hundred and six, and May twenty-eighth, nineteen hundred and eight, $90,000.

Bureau of Navigation: Commissioner of Navigation, $4,000; Deputy Commissioner, $2,400; chief clerk, $2,000; clerk to commissioner, $1,600; clerks—two of class four, one of class three, three of class two, four of class one, two at $1,000 each, six at $900 each; two messengers; in all, $33,280.

Shipping service: For salaries of shipping commissioners in amounts not exceeding the following: At Baltimore, $1,200; at Bath, $1,000; at Boston, $3,000; at Gloucester, $600; at Honolulu, $1,200; at Mobile, $1,200; at New Bedford, $1,200; at New Orleans, $1,500; at New York, $5,000; at Norfolk, $1,500; at Pascagoula, $300; at Philadelphia, $2,400; at Portland, Maine, $1,300; at Port Townsend, $3,500; at Providence, $1,800; at Rockland, $1,200; at San Francisco, $4,000; in all, $31,900.

Clerk hire: For the compensation to be fixed by the Secretary of Commerce and Labor not to exceed $1,600 per annum to each person, of clerks in the offices of the shipping commissioners, $35,000.

Contingent expenses: For rent, stationery, and other requisites for the transaction of the business of shipping commissioners' offices and rent of temporary quarters for the United States shipping commissioner at New York, New York, not to exceed $3,150, and for janitor in his office, $840; in all, $9,000.

For tools, appliances, and instruments for the admeasurement of vessels and the counting of passengers, $1,000.

Enforcement of navigation laws: To enable the Secretary of Commerce and Labor to provide and operate such motor boats and employ thereon such persons as may be necessary for the enforcement, under his direction by customs officers, of the laws relating to the navigation and inspection of vessels, boarding of vessels, and counting of passengers on excursion boats, $15,000.

Wireless communication: To enable the Secretary of Commerce and Labor to enforce the Act approved June twenty-fourth, nineteen hundred and ten, entitled "An Act to require apparatus and operators for radio-communication on certain ocean steamers"; and to employ such persons and means as may be necessary, $10,000.

Bureau of Immigration and Naturalization: Commissioner General of Immigration, $5,000; Assistant Commissioner General, who shall also act as chief clerk and actuary, $3,500; private secretary, $1,800; chief statistician, $2,000; clerks—three of class four, five of class three, six of class two, eight of class one, eight at $1,000

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each, six at $900 each; two messengers; assistant messenger; in all, $59,500.

For the purpose of carrying into effect the provisions of the Act approved June twenty-ninth, nineteen hundred and six, entitled "An Act to establish a Bureau of Immigration and Naturalization, and to provide for a uniform rule for the naturalization of aliens throughout the United States," namely: Chief of Division of Naturalization, $3,500; assistant chief of division, $3,000; clerks—four of class four, six of class three, eight of class two, eleven of class one, eight at $1,000 each, two at $900 each; messenger; two assistant messengers; messenger boy, $480; in all, $60,260.

For Division of Information established under section forty of the Act approved February twentieth, nineteen hundred and seven, entitled "An Act to regulate the immigrations of aliens into the United States," namely: Chief of division, $3,500; assistant chief of division, $2,500; clerks—two of class four, one of class three, two of class two, three of class one, one at $900; messenger; in all, $19,340.

Bureau of Standards: Director, $6,000; chief physicist, $4,800; physicist, qualified in optics, $3,600; two physicists at $3,600 each; associate physicists—one at $2,700, three at $2,500 each, three at $2,200 each, five at $2,000 each; assistant physicists—seven at $1,800 each, eleven at $1,600 each, fourteen at $1,400 each; chief chemist, $4,800; associate chemists—one at $2,500, one at $2,200; assistant chemists—two at $1,800 each, three at $1,600 each, two at $1,400 each; laboratory assistants—fifteen at $1,200 each, twelve at $1,000 each, eleven at $900 each; three laboratory helpers, at $720 each; aids—nine at $720 each, six at $600 each; laboratory apprentices—six at $540 each, six at $480 each; storekeeper, $1,000; librarian, $1,400; secretary, $2,200; clerks—one of class four, one of class three, two of class two, two of class one, four at $1,000 each, two at $900 each, two at $720 each; telephone operator, $720; messenger boys—two at $480 each, three at $360 each; elevator boy, $360; chief mechanician, $1,800; mechanicians—one at $1,500, one at $1,400, two at $1,200 each, three at $1,000 each, one at $900; three watchmen; skilled woodworkers—one at $1,000, one at $840; five skilled laborers, at $720 each; draftsman, $1,200; packer and shipper, $840; messenger; superintendent of mechanical plant, $2,500; assistant engineers—two at $1,200 each, one at $1,000, one at $900; three firemen; glass blower, $1,400; electricians—one at $1,200, one at $900; four laborers; janitors—two at $660 each, one at $600; two female laborers, at $360 each; in all, $239,940.

For apparatus, machinery, tools, and appliances used in connection with the buildings or with the work of the bureau, laboratory supplies, materials and supplies used in the construction of apparatus, machinery, or other appliances, including their exchange; piping, wiring, and construction incident to the installation of apparatus, machinery, or appliances; furniture for laboratories and offices, cases for apparatus, $50,000.

For repairs and necessary alterations to buildings, $2,000.

For fuel for heat, light, and power; office expenses, stationery, books and periodicals (subscriptions to periodicals may be paid in advance); traveling expenses; street-car tickets not exceeding $100; expenses of the visiting committee; expenses of attendance of Ameri-

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can member at the meeting of the International Committee of Weights and Measures; and contingencies of all kinds, $25,000.

For grading, construction of roads and walks, piping grounds for water supply, lamps, wiring for lighting purposes, and other expenses incident to the improvement and care of grounds, $3,000.

For completing investigation of the effects of electric currents upon gas and water pipes, and upon the reenforced foundations of buildings, bridges, and other structures, and for determining methods of discovering and preventing the destructive effects of such currents, including personal services in the District of Columbia and in the field, $10,000.

For the continuation of the investigation of the structural materials, such as stone, clays, cement, and so forth, including personal services in the District of Columbia and in the field, $75,000.

For the maintenance and operation of testing machines, including personal services in connection therewith in the District of Columbia and in the field, for the determination by the Bureau of Standards of the physical constants and the properties of materials as authorized by law, $30,000.

For the construction of a water current meter testing tank, $5,000.

CHILDREN'S BUREAU: For the following as authorized by the act entitled "An Act to establish in the Department of Commerce and Labor a bureau to be known as the Children's Bureau," approved April ninth, nineteen hundred and twelve, namely: Chief of bureau, $5,000; assistant chief of bureau, $2,400; statistical expert, $2,000; private secretary to the chief of bureau, $1,500; clerks—two of class four, two of class three, one of class two, one of class one, one at $1,000; special agents—one at $1,400, one at $1,200; copyist; messenger; in all, $25,640.

CONTINGENT EXPENSES, DEPARTMENT OF COMMERCE AND LABOR: For contingent and miscellaneous expenses of the offices and bureaus of the department, for which appropriations for contingent and miscellaneous expenses are not specifically made, including the purchase of professional and scientific books, law books, books of reference, periodicals, blank books, pamphlets, maps, newspapers (not exceeding $2,500), stationery, furniture and repairs to the same, carpets, matting, oilcloth, file cases, towels, ice, brooms, soap, sponges, fuel, lighting and heating; for the purchase, exchange, and care of horses and vehicles, to be used only for official purposes; freight and express charges, postage to foreign countries, telegraph and telephone service, typewriters and adding machines, including their exchange; repairs to the building occupied by the offices of the Secretary of Commerce and Labor; storage of documents belonging to the Bureau of Light-Houses, not to exceed $1,500, and for storage of documents belonging to the Bureau of Labor, not to exceed $750, street car tickets not exceeding $300; and all other miscellaneous items and necessary expenses not included in the foregoing, $60,000, and in addition thereto sums amounting to $66,500 shall be deducted from other appropriations made for the fiscal year nineteen hundred and thirteen, and added to the appropriation "Contingent Expenses, Department of Commerce and Labor," in order to facilitate the purchase through the central purchasing office as provided in the act of June seventeenth, nineteen hundred and ten (Statutes at Large, volume thirty-six, page five hundred and thirty-one), of certain supplies for

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bureaus and offices for which contingent and miscellaneous appropriations are specifically made as follows: General expenses, Lighthouse Service, $8,000; stationery, Bureau of the Census, $10,000; Miscellaneous expenses, Bureau of the Census, $15,000; books and periodicals, Bureau of the Census, $500; contingent expenses, Steamboat Inspection Service, $3,000; contingent expenses, shipping service, $500; instruments for measuring vessels and counting passengers, $500; expenses of regulating immigration, $13,500; equipment, Bureau of Standards, $1,000; general expenses, Bureau of Standards, $1,800; general expenses, Coast and Geodetic Survey, $4,200; miscellaneous expenses, Bureau of Fisheries, $8,500; and the said total sum of $126,500 shall be and constitute the appropriation for contingent expenses, Department of Commerce and Labor, to be expended through the central purchasing office (Division of Supplies), Department of Commerce and Labor, and shall also be available for objects and purposes of the several appropriations mentioned under title "Contingent expenses, Department of Commerce and Labor" in this Act.

For rent of buildings and parts of buildings in the District of Columbia for the use of the Department of Commerce and Labor, $50,000.

JUDICIAL.

SUPREME COURT: Chief Justice of the Supreme Court of the United States, $15,000; eight associate justices, at $14,500 each; marshal, $4,500; nine stenographic clerks, one for the Chief Justice and one for each associate justice, at not exceeding $2,000 each; in all, $153,500.

CIRCUIT COURTS OF APPEALS: Thirty-four circuit judges, at $7,000 each; nine clerks of circuit courts of appeals, at $3,500 each; messenger, to act as librarian and crier, circuit court of appeals, eighth circuit, $3,000; in all, $272,500.

No circuit judge shall hereafter be appointed until the whole number of circuit judges shall be reduced to twenty-nine, and thereafter there shall not be more than twenty-nine circuit judges.

DISTRICT COURTS: Ninety-three district judges, at $6,000 each, $558,000.

DISTRICT COURT, TERRITORY OF HAWAII: Two judges, at $6,000 each; clerk, $3,000; reporter, $1,200; $16,200.

RETIRED JUSTICES AND JUDGES: To pay the salaries of the United States justices and judges retired under section seven hundred and fourteen of the Revised Statutes, so much as may be necessary for the fiscal year ending June thirtieth, nineteen hundred and thirteen, is hereby appropriated.

COURT OF APPEALS, DISTRICT OF COLUMBIA: Chief justice, $7,500; two associate justices, at $7,000 each; clerk, $3,250, and $250 additional as custodian of the Court of Appeals Building; assistant or deputy clerk, $2,250; reporter, $1,500: *Provided*, That the reports issued by him shall not be sold for more than $5 per volume; crier, who shall also act as stenographer and typewriter in the clerk's office when not engaged in court room, $1,000; three messengers, at $720 each; necessary expenditures in the conduct of the clerk's office, $1,000; three stenographers, one for the chief justice and one

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for each associate justice, at $1,200 each; in all, $36,510, one-half of which shall be paid from the revenues of the District of Columbia: *Provided*, That on and after July first, nineteen hundred and twelve, the fees collected by the clerk of the Court of Appeals, District of Columbia, shall be deposited in the Treasury, one-half to the credit of the District of Columbia.

SUPREME COURT, DISTRICT OF COLUMBIA: Chief justice and five associate judges, at $6,000 each; six stenographers, one for the chief justice and one for each associate justice, at $900 each; in all, $41,400, one-half of which shall be paid from the revenues of the District of Columbia: *Provided*, That on and after July first, nineteen hundred and twelve, the surplus fees collected by the clerk of the Supreme Court of the District of Columbia shall be deposited in the Treasury, one-half to the credit of the District of Columbia.

COMMISSIONER, YELLOWSTONE PARK: Commissioner in Yellowstone National Park, $1,500. And the provisions of section twenty-one of the legislative, executive, and judicial appropriation Act approved May twenty-eighth, eighteen hundred and ninety-six, shall not be construed as impairing the right of said commissioner to receive said salary as herein provided.

BOOKS FOR JUDICIAL OFFICERS: For the purchase and rebinding of law books and books of reference for United States judges, district attorneys, and other judicial officers, including the nine libraries of the United States circuit courts of appeals, to be expended under the direction of the Attorney General: *Provided*, That such books shall in all cases be transmitted to their successors in office; all books purchased thereunder to be plainly marked, "The property of the United States," $16,000.

COURT OF CUSTOMS APPEALS: Presiding judge and four associate judges, at $7,000 each; marshal, $3,000; clerk, $3,500; assistant clerk, $2,000; five stenographic clerks, at $1,600 each; stenographic reporter, $2,500; and messenger, $840; in all, $54,840.

For rent of necessary quarters in Washington, District of Columbia, and elsewhere, $7,000; for necessary traveling expenses of members of the court and clerk, $330; for books, periodicals, and stationery, supplies, freight, telephone and telegraph, heat, light, and power service, drugs, chemicals, and cleansers, furniture, and printing; for pay of bailiffs and all other necessary employees not otherwise specifically provided for; and for such other miscellaneous expenses as may be approved by the presiding judge, $8,000; in all, $15,330.

COURT OF CLAIMS: Chief justice, $6,500; four judges, at $6,000 each; chief clerk, $3,500; assistant clerk, $2,500; bailiff, $1,500; clerks—one at $1,600, two at $1,400 each, three at $1,200 each; stenographer, $1,200; chief messenger, $1,000; three firemen; three watchmen; elevator conductor, $720; two assistant messengers; two laborers; two charwomen; in all, $56,480.

For auditors and additional stenographers, when deemed necessary, in the Court of Claims, and for a stenographer, at $1,600 for the chief justice, to be disbursed under the direction of the court, $6,000.

For stationery, court library, repairs, including repairs to bicycles, fuel, electric light, electric elevator, and other miscellaneous expenses, $3,900.

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For reporting the decisions of the court and superintending the printing of the forty-seventh volume of the reports of the Court of Claims, $1,000, to be paid on the order of the court, notwithstanding section seventeen hundred and sixty-five of the Revised Statutes or section three of the Act of June twentieth, eighteen hundred and seventy-four.

For pay of a custodian of the building occupied by the Court of Claims, $500, to be paid on the order of the court, notwithstanding section seventeen hundred and sixty-five of the Revised Statutes or section three of the Act of June twentieth, eighteen hundred and seventy-four.

SEC. 2. The pay of telephone-switchboard operators, assistant messengers, firemen, watchmen, laborers, and charwomen provided for in this Act, except those employed in mints and assay offices, unless otherwise specially stated, shall be as follows: For telephone-switchboard operators, assistant messengers, firemen, and watchmen, at the rate of $720 per annum each; for laborers, at the rate of $660 per annum each; assistant telephone-switchboard operators, at the rate of $600 each, and for charwomen, at the rate of $240 per annum each.

SEC. 3. That the appropriations herein made for the officers, clerks, and persons employed in the public service shall not be available for the compensation of any persons incapacitated otherwise than temporarily for performing such service: *Provided*, That no part of any money appropriated in lump sum in this Act shall be available for the payment of personal services at a rate of compensation in excess of that paid for the same or similar services during the fiscal year nineteen hundred and twelve; nor shall any person employed at a specific salary under this Act be transferred during the fiscal year nineteen hundred and thirteen and be paid from a lump-sum appropriation a rate of compensation greater than such specific salary and the heads of departments shall cause this provision to be enforced.

SEC. 4. The Civil Service Commission shall, subject to the approval of the President, establish a system of efficiency ratings for the classified service in the several executive departments in the District of Columbia based upon records kept in each department and independent establishment with such frequency as to make them as nearly as possible records of fact. Such system shall provide a minimum rating of efficiency which must be attained by an employee before he may be promoted; it shall also provide a rating below which no employee may fall without being demoted; it shall further provide for a rating below which no employee may fall without being dismissed for inefficiency. All promotions, demotions, or dismissals shall be governed by provisions of the civil service rules. Copies of all records of efficiency shall be furnished by the departments and independent establishments to the Civil Service Commission for record in accordance with the provisions of this section: *Provided*, That in the event of reductions being made in the force in any of the executive departments no honorably discharged soldier or sailor whose record in said department is rated good shall be discharged or dropped, or reduced in rank or salary.

SEC. 5. That on and after September first, nineteen hundred and thirteen, all appointments to positions in the classified service of the executive departments within the District of Columbia provided for

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at annual rates of compensation shall be made, after the probationary period shall have expired, for terms of seven years each; at the expiration of each such appointment the employment of each person so appointed shall cease and determine; and the employment of all persons in the classified service of the executive departments within the District of Columbia, at annual rates of compensation, who were appointed prior to September first, nineteen hundred and twelve, shall cease and determine, unless previously separated from the service, within one year after the thirty-first day of August, nineteen hundred and nineteen, the particular date of such termination within said year to be determined by the head of the department concerned, and on the basis of the length of service, within the classified service, of each such person prior to September first, nineteen hundred and twelve: *Provided*, That all persons separated hereunder from the classified service shall be eligible for, and may, in the discretion of the head of the executive department, be reappointed without examination for additional periods of seven years if at the time of such reappointment they shall be up to the standard of efficiency then in force and as hereinbefore set forth, and capable of rendering a full measure of service in return for the salary of the place to which they may be appointed: *Provided further*, That in reducing the force in any of the executive departments no honorably discharged soldier or sailor whose record in said department is rated good shall be discharged or dropped: *And provided further*, That nothing herein shall be construed to prevent the head of any department from removing at any time, in accordance with civil service rules, for good and sufficient cause any employee of his department.

SEC. 6. That any person violating section four of the legislative, executive, and judicial appropriation Act approved August fifth, eighteen hundred and eighty-two (Statutes at Large, volume twenty-two, page two hundred and fifty-five), shall be summarily removed from office, and may also upon conviction thereof be punished by a fine of not more than one thousand dollars or by imprisonment for not more than one year.

SEC. 7. That in addition to the apportionment required by the so-called antideficiency Act, approved February twenty-seventh, nineteen hundred and six (Statutes at Large, volume thirty-four, page forty-nine), the head of each executive department shall, on or before the beginning of each fiscal year, apportion to each office or bureau of his department the maximum amount to be expended therefor during the fiscal year out of the contingent fund or funds appropriated for the entire year for the department, and the amounts so apportioned shall not be increased or diminished during the year for which made except upon the written direction of the head of the department, in which there shall be fully expressed his reasons therefor; and hereafter there shall not be purchased out of any other fund any article for use in any office or bureau of any executive department in Washington, District of Columbia, which could be purchased out of the appropriations made for the regular contingent funds of such department or of its offices or bureaus.

SEC. 8. That no money appropriated by this or any other Act shall be expended for telephone service installed in any private residence or private apartment or for tolls or other charges for telephone service from private residences or private apartments, except for

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long distance telephone tolls required strictly for the public business, and so shown by vouchers duly sworn to and approved by the head of the department, division, bureau, or office in which the official using such telephone or incurring the expense of such tolls shall be employed.

SEC. 9. That no money appropriated by this or any other Act shall be used after the first day of October, nineteen hundred and twelve, for services in any executive department or other Government establishment at Washington, District of Columbia, in the work of addressing, wrapping, mailing, or otherwise dispatching any publication for public distribution, except maps, weather reports, and weather cards issued by an executive department or other Government establishment at Washington, District of Columbia, or for the purchase of material or supplies to be used in such work; and on and after October first, nineteen hundred and twelve, it shall be the duty of the Public Printer to perform such work at the Government Printing Office. Prior to October first, nineteen hundred and twelve, each executive department and other Government establishment at Washington, District of Columbia, shall transfer to the Public Printer such machines, equipment, and materials as are used in addressing, wrapping, mailing, or otherwise dispatching publications; and each head of such executive department and other Government establishment at Washington, District of Columbia, shall furnish from time to time to the Public Printer mailing lists, in convenient form, and changes therein, or franked slips, for use in the public distribution of publications issued by such department or establishment; and the Public Printer shall furnish copies of any publication only in accordance with the provisions of law or the instruction of the head of the department or establishment issuing the publication. The employment of all persons in the several executive departments and other Government establishments at Washington, District of Columbia wholly in connection with the duties herein transferred to the Public Printer, or whose services can be dispensed with or devolved upon another because of such transfer, shall cease and determine on or before the first day of October, nineteen hundred and twelve, and their salaries or compensation shall lapse for the remainder of the fiscal year nineteen hundred and thirteen and be covered into the Treasury. A detailed statement of all machines, equipment, and material transferred to the Government Printing Office by operation of this provision and of all employments discontinued shall be submitted to Congress at its next session by the head of each executive department and other Government establishments at Washington, District of Columbia, in the annual estimates of appropriations: *Provided*, That nothing in this section shall be construed as applying to orders, instructions, directions, notices, or circulars of information, printed for and issued by any of the executive departments or other Government establishments or to the distribution of public documents by Senators or Members of the House of Representatives or to the folding rooms and documents rooms of the Senate or House of Representatives.

SEC. 10. That the Commerce Court created and established by the Act entitled "An Act to create a Commerce Court and to amend the Act entitled 'An Act to regulate commerce,' approved February fourth, eighteen hundred and eighty-seven, as heretofore amended and for other purposes," approved June eighteenth, nineteen hundred

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and ten, be and the same hereby is abolished and the jurisdiction vested in said Commerce Court by said Act is hereby transferred to and vested in the several district courts of the United States.

All cases pending and undisposed of in said Commerce Court are hereby transferred to and shall be deemed pending in the district court of the judicial district in which the cause of action in the first instance arose, and the venue of all suits and proceedings hereafter brought by or against the Interstate Commerce Commission to enforce, set aside or modify the decrees and orders of the Commission shall be in the district court of the judicial district in which the cause of action in the first instance arose.

The venue in suits brought to enforce an order for the payment of money shall be in the district court of the judicial district in which the complainant resides. The procedure in the district court in respect to cases of which jurisdiction is conferred upon them by this Act shall be the same as that heretofore prevailing in the said Commerce Court and the right of appeal from the district courts in such cases shall be the same as the right of appeal heretofore prevailing under existing law from the Commerce Court. No interlocutory injunction suspending or restraining the enforcement, operation, or execution of any order made or entered by the Interstate Commerce Commission shall be issued or granted by any justice of the Supreme Court, or by any district court of the United States, or by any judge thereof, or by any circuit judge acting as district judge, unless the application for the same shall be presented to a justice of the Supreme Court of the United States, or to a circuit or district judge, and shall be heard and determined by three judges, of whom at least one shall be a justice of the Supreme Court, or a circuit judge, and the other two may be either circuit or district judges, and unless a majority of said three judges shall concur in granting such application. When such application as aforesaid is presented to a justice of the Supreme Court, or to a judge, he shall immediately call to his assistance to hear and determine the application two other judges: *Provided, however,* That one of such three judges shall be a justice of the Supreme Court, or a circuit judge. Said application shall not be heard or determined before at least five days' notice of the hearing has been given to the Interstate Commerce Commission, to the Attorney General of the United States, and to such other persons as may be defendants in the suit: *Provided,* That if of opinion that irreparable loss or damage would result to the complainant unless a temporary restraining order is granted, any justice of the Supreme Court, or any circuit or district judge, may grant such temporary restraining order at any time before such hearing and determination of the application for an interlocutory injunction, but such temporary restraining order shall remain in force only until the hearing and determination of the application for an interlocutory injunction upon notice as aforesaid. The hearing upon such application for an interlocutory injunction shall be given precedence, and shall be in every way expedited and be assigned for a hearing at the earliest practicable day after the expiration of the notice hereinbefore provided for. An appeal may be taken direct to the Supreme Court of the United States from the order granting or denying, after notice and hearing, an interlocutory injunction in such case; and upon the final hearing of any suit brought to annul, enjoin, or restrain any order of said commission the same requirement

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as to judges and the same procedure as to appeal shall apply. The provisions of this section shall also apply to the issuing and granting of interlocutory injunctions suspending or restraining the enforcement, operation, or execution of orders made by any administrative board or commission created by and acting under the statute of a State. That in such case the notice required shall be served upon the defendants in the case, and upon the attorney general of the State. All cases pending in the Commerce Court at the date of the passage of this Act shall be transferred forthwith to said district courts. Each of said cases and all the records, papers, and proceedings shall be transferred to the district court wherein it might have been filed at the time it was filed in the Commerce Court if this Act had then been in effect, and if it might have been filed in any one of two or more district courts it shall be transferred to that one of said district courts which may be designated by the petitioner or petitioners in said case, or, upon failure of said petitioners to act in the premises within ten days after the passage of this Act, to such one of said district courts as may be designated by the judges of the Commerce Court. The judges of the Commerce Court shall have authority, and are hereby directed, to make any and all orders and to take any other action necessary to transfer as aforesaid the cases and all the records, papers, and proceedings then pending in the Commerce Court to said district courts.

SEC. 11. That all laws or parts of laws inconsistent with this Act are repealed.

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62D CONGRESS, 2d Session } HOUSE OF REPRESENTATIVES { DOCUMENT No. 911

TREASURY DEPARTMENT

Public Health and Marine-Hospital Service of the United States

REPRINT FROM PUBLIC HEALTH REPORTS.—No. 78

REPORT OF THE COMMISSION ON MILK STANDARDS APPOINTED BY THE NEW YORK MILK COMMITTEE

(SECOND EDITION)

WASHINGTON
GOVERNMENT PRINTING OFFICE
1912

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IN THE HOUSE OF REPRESENTATIVES.

August 10. 1912.

Resolved, That there be printed for the use of the House document room for distribution fifty thousand copies of the "Report of the Commission on Milk Standards appointed by the New York Milk Committee," as published in the Public Health Reports, volume twenty-seven, numbered nineteen, May tenth, nineteen hundred and twelve.

Attest: SOUTH TRIMBLE, *Clerk.*

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REPORT OF THE COMMISSION ON MILK STANDARDS APPOINTED BY THE NEW YORK MILK COMMITTEE.[1]

INTRODUCTION.

PERSONNEL.

The New York Milk Committee, which is a voluntary organization working in the interests of improving the milk supply of New York City, in March, 1911, decided to appoint a commission on milk standards. The men who have served on the commission are as follows:

Dr. W. A. Evans, professor preventive medicine, Northwestern University; health editor, Chicago Tribune, Chicago, Ill., chairman.

Dr. B. L. Arms, director of bacteriological laboratory, department of health, Boston, Mass.

Dr. John F. Anderson, director of hygienic laboratory, United States Public Health and Marine-Hospital Service, Washington, D. C.

Prof. H. W. Conn, director of bacteriological laboratory, Connecticut State Board of Health, department of biology, Wesleyan University, Middletown, Conn.

Dr. E. C. Levy, health officer, Richmond, Va.

Dr. A. D. Melvin, Chief of Bureau of Animal Industry, United States Department of Agriculture, Washington, D. C.

Dr. William H. Park, director of laboratories, department of health of New York City, foot of East Sixteenth Street, New York City.

Mr. Raymond A. Pearson, commissioner of agriculture, Albany, N. Y.

Dr. M. P. Ravenel, director of hygienic laboratory, University of Wisconsin, Madison, Wis.

Prof. M. J. Rosenau, department of hygiene and preventive medicine, Harvard Medical School, Boston, Mass.

Prof. Henry C. Sherman, department of chemistry, Columbia University, New York City.

Dr. A. H. Stewart, antitoxin laboratories, department of health and charities, Philadelphia, Pa.

Dr. William Stokes, bacteriologist to State and city health departments, Baltimore, Md.

Prof. William A. Stocking, department of dairy industry, Cornell University, Ithaca, N. Y.

Mr. Chester H. Wells, health officer, Montclair, N. J.

Dr. L. L. Van Slyke, department of chemistry, New York Agricultural Experiment Station, Geneva, N. Y.

Dr. Charles E. North, consulting sanitarian, member New York Milk Committee, New York City, secretary.

ORIGIN AND ORGANIZATION.

The appointment of this commission was the direct result of the observation of the New York Milk Committee that there was great incompleteness and lack of uniformity in the milk standards, milk ordinances, and rules and regulations of public-health authorities throughout the country for the control of public-milk supplies.

[1] Reprint from the Public Health Reports, Vol. XXVII, No. 19, May 10, 1912.

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There was a need that health officers be furnished conclusions drawn from large experience and mature judgment and that ordinances should be as free from erroneous positions and as uniform as possible.

A special committee of the New York Milk Committee was appointed to consider names of more than 200 men of prominence in medicine, sanitation, public health, and laboratory work, particulary those recognized as authorities on the milk question. Since regulations are based on standards and standards are based chiefly on laboratory analyses, the subcommittee selected 20 names of men distinguished for their knowledge of the bacteriological and chemical examination of milk and for the enforcement of standards based on such laboratory examinations. Two of those chosen declined to serve and another resigned after the first meeting, so that there were 17 members who have taken an active part in the work of the commission.

PURPOSES.

While this commission was created by and its expenses were borne by the New York Milk Committee, it has not been the intention of that committee that the commission should have the New York City milk problem solely in mind. It was desired that the commission should make recommendations that might be adopted by any city or town in the country.

MEETINGS.

The first meeting of the commission was held in the New York Academy of Medicine on May 22, 1911. The chief work of that meeting consisted in a general discussion of the scope of the commission's purpose and the appointment of a number of standing committees to which the several divisions of the work were assigned. The subjects included bacteriological standards, chemical standards, grades and classes of milk, standard ordinances, laws, and licenses, and new questions.

The second meeting of the commission was held at the New York Academy of Medicine on October 5 and 6, 1911, at which time the reports of the standing committees were received and modified, and the major part of them tentatively adopted. Special committees were appointed at this time to consider certain specific matters which were presented and final action on all matters was deferred until the third and final meeting.

The third and last meeting of the commission was held in Homer, N. Y., on January 25, and at the New York Academy of Medicine, January 26 and 27, 1912. The commission visited Homer in order that the members might inspect the central station and the dairy farms of the New York Dairy Demonstration Co. as a means of helping them to form a correct judgment of the relative value to be given to methods and equipment in the rules and regulations that they might recommend.

The commission voted to divide its report into a preamble of explanation and a report containing its resolutions regarding milk standards and rules and regulations.

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PREAMBLE.

NEED OF MILK CONTROL.

Proper milk standards, while they are essential to efficient milk control by public health authorities and have as their object the protection of the milk consumer, are also necessary for the ultimate well-being of the milk industry itself. Public confidence is an asset of the highest value in the milk business. The milk producer is interested in proper standards for milk, since these contribute to the control of bovine tuberculosis and other cattle diseases and distinguish between the good producer and the bad producer. The milk dealer is immediately classified by milk standards, either into a seller of first-class milk or a seller of second-class milk, and such distinction gives to the seller of first-class milk the commercial rewards which he deserves, while it inflicts just penalties on the seller of second-class milk. For milk consumers, the setting of definite standards accompanied by proper labeling makes it possible to know the character of the milk which is purchased and to distinguish good milk from bad milk. In the matter of public health administration, standards are absolutely necessary to furnish definitions around which the rules and regulations of city health departments can be drawn, and the milk supply efficiently controlled.

PUBLIC HEALTH AUTHORITIES.

While public health authorities must necessarily see that the source of supply and the chemical composition should correspond with established definitions of milk as a food, their most important duty is to prevent the transmission of disease through milk. This means the control of infantile diarrhea, typhoid fever, tuberculosis, diphtheria, scarlet fever, septic throat infections, and other infectious diseases in so far as they are carried by milk.

SEPTIC SORE THROAT.

Septic sore throat deserves special mention because of the frequency in recent years with which outbreaks of this disease have been traced to milk supplies. The suggestion has been made that the infection of the milk is due to udder infection of the cow and on the other hand it has been suggested that it is due to contact with infected persons. The uncertainty can not be dispelled until cases of septic sore throat are regularly reported and tabulated by public health authorities. The commission therefore recommends that public health authorities make septic sore throat a reportable disease.

ECONOMIC PROBLEM.

The commission recognizes the magnitude of the milk industry, and that the improvement of milk supplies is primarily an economic problem. The success achieved by the experiment in milk production, which has been carried out on a very large scale by the New York Dairy Demonstration Co., is an illustration of the fact that an extra price or premium paid to the producer for cleanliness and care will

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bring results far more quickly and certainly than instructions or official inspection. But while the basic problem is economic, and must eventually be solved by commerce, public health authorities must show the way and must establish standards and regulations in the interest of consumers, the value of which even the consumers themselves often fail to appreciate.

LEGAL REQUIREMENTS.

A prime requisite of effectiveness is that local milk laws shall not exceed sanitary limitations. The commission has not entered into a discussion of fundamental State laws, but it recommends that State laws be amended wherever necessary in order that every municipality may have the legal right to adopt whatever ordinances it sees fit for the improvement of the milk supply. The commission advocates that local health laws be carefully drawn with regard to their legality under the general laws of the localities to which they apply, since a decision against a milk law in one locality is liable to be used as a precedent against milk laws elsewhere.

STANDARD RULES AND REGULATIONS.

The commission has drawn up a set of standard rules and regulations for the control of milk. These are the result of a study of the printed rules and regulations of the cities of the United States and of foreign countries and represent an immense amount of work on the part of the special committee of the commission to which the task was assigned. Some communities are in a position to adopt all of these rules and regulations at the present time, while other communities will be obliged to adopt a few rules at a time as public sentiment and local conditions warrant. It is realized that some of the rules may have to be modified to meet local conditions. It seems wise to the commission to divide the regulations into two parts: First, requirements, under which head are set down those provisions which are so fundamentally necessary that no community is justified in compromising on them; second, recommendations, under which head are set down provisions which are necessary for a good milk supply, but on which there can be a certain amount of latitude for compromise by those communities in which public sentiment is not ready to support more than a moderate degree of protection of human life.

ADMINISTRATIVE EQUIPMENT.

Another prime requisite is that the administrative departments shall be adequately equipped with men, money, and laboratory facilities. In smaller communities cooperation between local boards of health to the extent of exchanging reports would eliminate much duplication. Where a community can not maintain a laboratory it can enter into laboratory arrangements with other communities, and several can combine in the use of a common laboratory. Much of the expense of tuberculin testing can be borne by the National and State Governments. The commission is of the opinion that results can not be expected from laws where there is not sufficient appropriation and

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no machinery for their enforcement. On this subject the commission passed a resolution as follows:

Whereas the appropriations generally made for the purposes of carrying on laboratory analyses of milk are now in most cases entirely inadequate: Therefore be it

Resolved, That this commission recommends for the consideration of the authorities concerned an appropriation of funds commensurate with the importance of laboratory methods, which are of paramount importance in the hygienic control of the milk supply.

CLASSIFICATION OF MILKS.

There is no escape from the conclusion that milk must be graded and sold on grade, just as wheat, corn, cotton, beef, and other products are graded. The milk merchant must judge of the food value and also of the sanitary character of the commodity in which he deals. The high-grade product must get a better price than at present. The low-grade product must bring less. In separating milk into grades and classes the commission has endeavored to make its classification as simple as possible and at the same time to distinguish between milks which are essentially different in sanitary character.

In general two great classes of milk are recognized, namely, raw milk and pasteurized milk. Under these general classes there are different grades, as indicated in the report of the committee on classification.

PASTEURIZATION.

While the process of pasteurization is a matter which has attracted a great deal of attention in recent years, the commission has not entered into any discussion of its merits or demerits, but has given it recognition in its classification as a process necessary for the treatment of milk which is not otherwise protected against infection.

The commission thinks that pasteurization is necessary for all milk at all times excepting certified milk or its equivalent. The majority of the commissioners voted in favor of the pasteurization of all milk, including certified. Since this was not unanimous, the commission recommends that the pasteurization of certified milk be optional.

PASTEURIZING TEMPERATURES.

The destruction of the chemical constituents of milk by heat occurs at higher temperatures than those necessary for the destruction of the bacteria of infectious diseases transmissible by milk. (See chart in appendix.)

The commission passed a resolution regarding the temperature of pasteurization as follows:

That pasteurization of milk should be between the limits of 140° F. and 155° F. At 140° F. the minimum exposure should be 20 minutes. For every degree above 140° F. the time may be reduced by 1 minute. In no case should the exposure be for less than 5 minutes.

In order to allow a margin of safety under commercial conditions, the commission recommends that the minimum temperature during the period of holding should be made 145° F. and the holding time 20 minutes. Pasteurization in bulk when properly carried out has proven satisfactory, but pasteurization in the final container is preferable.

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LABELING AND DATING OF MILK.

The commission voted that all milk should be labeled and marked with the grade in which it is to be sold. In dating milk uniform methods should be adopted for all grades of both raw milk and pasteurized milk, both using the day of the week or both using the day of the month. All milk should be dated uniformly with the date of delivery to the consumer. Raw milk should not be dated with the date of production while pasteurized milk is dated with the date of pasteurization, since this places certified milk at a disadvantage by making it possible for pasteurized milk of a lower grade to carry a later date. The stamping on the label of the day of the week is sufficient for dating.

BACTERIA.

The subject of bacteria in milk received more attention than any other matter brought before the commission. The commission recognizes that bacteria in milk in the majority of instances indicate dirt, or lack of refrigeration, or age, while in the minority of instances the bacteria of disease may be present. The routine laboratory methods for examining milk have as their purpose only the control over dirt, refrigeration, and age, and it is a rare thing for a laboratory to undertake the examination of milk for the bacteria of disease. Milk with a high bacterial count is not necessarily harmful, but when used as a food, particularly for children, is a hazard too great to be warranted. Milk with a high bacteria count, therefore, should be condemned. Milks with small numbers of bacteria are presumed to be wholesome, unless there is reasonable ground for suspecting that they have been exposed to contagion.

BACTERIAL STANDARDS.

The commission recognizes the difficulty in interpreting bacterial counts. At times misleading conclusions have been drawn from such counts. In establishing the bacterial standards for a city it is always necessary to take into consideration the necessary age of the milk and in lesser measure the distance hauled and methods employed in its hauling. It will always be possible for a community which consumes milk produced on its own premises, or within 12 hours of its production, to insist upon and maintain a lower bacterial standard than can one where the milk is hauled many miles into town in a wagon, to be consumed within 24 hours after it is produced. In like manner this second type of city can always maintain a lower bacterial standard than a city where the general milk supply is hauled by railroad long distances and is several days old when consumed. In drawing conclusions as to the relative efficacy of milk control in cities comparisons must be made between cities of the same class.

The commission deems it of the utmost importance that some standard method should be adopted for estimating and comparing the bacterial character of milks, since by this means only is it possible to grade and classify milks and to enforce bacterial standards. There is much diversity of opinion as to the best method of valuing bacterial counts. The average of a series gives results which are misleading about as frequently as otherwise. In the average a single high figure

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may unduly overbalance a large number of exceedingly low counts. There are objections to the use of the "median" or middle number when the counts are arranged in order of size, for the reason that the middle figure does not distinguish between two groups in one of which there may be some very high counts above the median and in the other of which there are none. The method of dividing results into groups as recommended by the American Public Health Association, while a step in the right direction, is cumbersome and does not clearly indicate whether a milk conforms or not to a given bacterial standard. In this dilemma the commission has adopted some special methods of stating the results of bacterial counts. It recommends the use of a single figure, called "the bacterial content," as the means of determining whether a milk conforms to given bacterial standards and for determining the class to which milk belongs. These methods are described in detail in the appendix.

The bacterial standards given in the report are the work of a special committee of bacteriologists who considered all of the bacterial standards now in use. It is believed that the standards suggested are fair and wise and give full consideration to the state of the industry and of public-health control. The commission believes that the adoption and enforcement of these bacterial standards will be more effective than any other one thing in improving the sanitary character of public milk supplies. The enforcement of these standards can only be carried out by the regular and frequent laboratory examinations of milks for the numbers of bacteria they may contain.

CHEMICAL STANDARDS.

The chemical standards suggested are the work of a special committee, composed of chemists, which has carefully considered the natural composition of milk and the Federal and State standards already established. The standard of 3.25 per cent fat and 8.5 per cent solids, not fat, here proposed is in accordance with the recommendations of the Association of Official Agricultural Chemists and has been adopted by the United States Department of Agriculture and by a larger number of States than has any other standard. The simplification of the Babcock test makes the determination of fats and solids not fat an easy procedure quickly applied. Such chemical examinations of milk can be readily adopted and executed by any health board laboratory at a very moderate expense. It is believed that such chemical standards as are suggested will inflict no real hardship on the milk producers of this country and that the provision regarding substandard milks is a liberal one.

MICROSCOPIC EXAMINATION OF MILK.

Some of the special methods of milk examination recently devised having as their object the determination of the numbers of bacteria directly by the use of the miscroscope, the presence of pus by sedimentation and microscopical examination, and the presence of gross dirt by filtration were deemed of such importance that the subjects were assigned to a special committee. The committee has made extensive studies of these methods, which are the subject of a special report. (See appendix.)

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PUBLICITY.

The commission fully considered the matter of the publication of laboratory examinations of milk by city and town health authorities. When proper standards and regulations are established and adequate facilities furnished for laboratory work, it is believed that the laboratory tests will give an index of the character of the milk delivered to the public by milk sellers which is entirely fair and impartial. There can be no objection to publicity under such circumstances. It is an advantage to the seller of high-grade milk. It is an advantage to the consumer who desires to select a high-grade milk. It has much educational value both to producer and consumer. Therefore the commission recommends "that the reports of laboratory analyses of milk made by departments of health be regularly published."

REPORT.

CLASSIFICATION OF MILK.

Milk should be graded and classified. The classification should be the same for both large and small cities and towns. Milk should be graded into four classes, as follows:

Class A.—Certified milk or its equivalent.
Class B.—Inspected milk.
Class C.—Pasteurized milk.
Class D.—Milk not suitable for drinking purposes.

CLASS A. *Certified milk or its equivalent.*—The use of the term certified should be limited to milk produced in conformity with the requirements of the American Association of Certified Milk Commissions.

Milk of an equivalent character should conform to the following requirements: It should be produced at dairies subjected to periodic inspection and the products of which are subject to frequent analyses. The cows producing such milk must be properly fed and watered, free from tuberculosis as shown by the tuberculin test and physical examination by a qualified veterinarian, and from all other communicable diseases, and from diseases and conditions whatsoever likely to deteriorate the milk. They must be housed in clean, properly ventilated stables of sanitary construction, and must be kept clean. All persons who come in contact with the milk must exercise scrupulous cleanliness and must not harbor the germs of typhoid fever, tuberculosis, diphtheria, dysentery, scarlet fever, and septic throat infections, or other infections liable to be conveyed by the milk. Milk must be drawn under all precautions necessary to avoid infection, and be immediately strained and cooled, placed in sterilized bottles, and kept at a temperature not exceeding 50° F. until delivered to the consumer. Pure water, as determined by inspection and chemical and bacteriological examination, is to be provided for use throughout the dairy farm and dairy. Milk of this class should contain less than 10,000 bacteria per cubic centimeter, and should not be more than 28 hours old when delivered.

CLASS B. *Inspected milk.*—This class should consist of clean raw milk from healthy cows, as determined by the tuberculin test and physical examination by a qualified veterinarian, and from dairies

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that score not less than 70 on the Government score card. The cows are to be fed, watered, housed, and milked under good conditions, but not necessarily equal to the conditions prescribed for class A. All persons who come in contact with the milk must exercise scrupulous cleanliness and must not harbor the germs of typhoid fever, tuberculosis, diphtheria, or other infectious diseases liable to be conveyed by milk. This milk is to be delivered in sterilized containers and is to be kept at a temperature not exceeding 50° F. until it reaches the consumer. It should contain less than 100,000 bacteria per cubic centimeters. Pasteurization of milk of this class is optional. If pasteurized it shall then be designated as "pasteurized inspected milk."

Class C. *Pasteurized milk.*—Milk from dairies not able to comply with the requirements specified for classes A and B should be pasteurized under official supervision before being sold, and should be sold under the designation "pasteurized milk." Milk for pasteurization should be kept at a temperature not exceeding 50° F. at all times while in transit from the dairy farm to the pasteurizing plant. After pasteurization it should be placed in sterilized containers (if not pasteurized in such containers) and should be cooled at once to 50° F. and kept below that temperature until delivered to the consumer. No cows in any way unfit for the production of milk for use by man, as determined by physical examination, shall be permitted to remain in any dairy producing milk of class C. Such milk before pasteurization should contain less than 1,000,000 bacteria per cubic centimeter, and after pasteurization less than 50,000, and it should not contain colon bacilli in 1 cubic centimeter as determined by cultural methods. Pasteurized milk should be delivered to the consumer within less than 48 hours after pasteurization. The repasteurization of milk should be prohibited.

Class D. *Milk not suitable for drinking purposes.*—Milk containing over 1,000,000 bacteria per cubic centimeter, or from farms scoring less than 40 per cent, may be allowed to be sold for cooking and industrial purposes only after having been pasteurized or heated to a higher temperature. Such milk should be delivered in a distinctive container, and should not be allowed to be sold for drinking purposes.

CLASSIFICATION OF CREAM.

Cream should be classified into the same grades as milk, in accordance with the requirements for the grades of milk, with special bacterial standards which should not exceed 30,000 per cubic centimeter in the case of grade A, and 300,000 per cubic centimeter in the case of grade B. Bacterial limits for grades C and D can not at the present time be specified.

BACTERIOLOGICAL STANDARDS.

Class A milk shall contain less than 10,000 bacteria per cubic centimeter.

Class B milk shall contain less than 100,000 bacteria per cubic centimeter.

Class C milk shall contain less than 1,000,000 bacteria per cubic centimeter before pasteurization and less than 50,000 bacteria per

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cubic centimeter after pasteurization, and should not contain colon bacilli in 1 cubic centimeter as determined by cultural methods.

On the subject of laboratory examinations of milk for bacteria, the commission passed the following resolutions:

1. That the interests of public health demand that the control of milk supplies shall include regular laboratory examinations of milk by bacteriological methods.
2. That among present available routine laboratory methods for determining the sanitary quality of milk the bacteria count occupies first place.
3. That bacteriological standards should be a factor in classifying or grading milks of different degrees of excellence.
4. That bacteriological examinations of milk are of importance at every stage of production and distribution, but that in the establishment of grades and classes of raw milk such grades and classes should be based on the bacterial content of milk as offered for sale.
5. That there should be bacteriological standards for milk before it is pasteurized and for milk after it is pasteurized.
6. That the bacteria count of milk indicates its quality and history as it is modified by unusual contamination, improper handling, dirt, improper refrigeration, or age. The high count indicates the necessity of investigation and inspection in order that remedies may be applied.
7. That there be adopted as standards for making the bacteria count the standard methods of the American Public Health Association, laboratory section, recommending, however, the following amendments:
   A. The methods of taking samples for laboratory tests for bacterial counts should be the same and uniform for all grades and classes of milk.
   B. That 1½ per cent agar be used instead of 1 per cent agar.
   C. That incubation of plate cultures be made at 37° C. for 48 hours, and that there be no option.
   D. That the minimum number of bacteria tests of milk necessary to warrant the publication of results be made four consecutive bacteria counts of separate samples within a period of not more than four weeks.

CHEMICAL STANDARDS.

Cow's milk.—Standard milk should contain not less than 8.5 per cent of milk solids not fat and not less than 3.25 per cent of milk fat.

Skim milk.—Standard skim milk should contain not less than 8.75 per cent of milk solids.

Cream.—Standard cream contains not less than 18 per cent of milk fat and is free from all constituents foreign to normal milk. The percentage of milk fat in cream over or under that standard should be stated on the label.

Buttermilk.—Buttermilk is the product that remains when fat is removed from milk or cream, sweet or sour, in the process of churning. Standard buttermilk contains not less than 8.5 per cent of milk solids. When milk is skimmed, soured, or treated so as to resemble buttermilk, it should be known by some distinctive name.

HOMOGENIZED MILK OR CREAM.

The commission is of the opinion that in the compounding of milk no fats other than milk fats from the milk in process should be used and that no substance foreign to milk should be added to it. The commission is opposed to the use of condensed milk or other materials for the thickening of cream unless the facts are clearly set forth on the label of the retail package. Regarding the process of homogenizing the commission resolved as follows:

That homogenized milk or cream should be so marked, stating the percentage of fat that it contains.

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ADJUSTED MILKS.

On the question of milks and creams in which the ratio of the fats to the solids not fat has been changed by the addition to or subtraction of cream or milk fat the commission has hesitated to take a position. On the one hand they are in favor of every procedure which will increase the market for good milk and make the most profitable use of every portion of it. On the other, they recognize the sensitiveness of milk, the ease with which it is contaminated, and the difficulty of controlling, standardizing, skimming, homogenizing, souring, etc., so that contaminations do not occur and inferior materials are not used. On this subject the commission passed a resolution presented by a special committee as follows:

Milk in which the ratio of the fats to the solids not fat has been changed by the addition to or subtraction of cream should be labeled "adjusted milk"; the label should show the minimum guaranteed percentage of fat and should comply with the same sanitary or chemical requirements as for milk not so standardized or modified.

REGULATION OF MARKET MILK ON BASIS OF GUARANTEED PERCENTAGE COMPOSITION.

1. Sellers of milk should be permitted choice of one of two systems in handling market milk. Milk can be sold, first, under the regular standard, or, second, under a guaranteed statement of composition.
2. Any normal milk may be sold if its per cent of fat is stated. In case the per cent of fat is not stated, the sale will be regarded as a violation unless the milk contains at least 3.25 per cent of milk fat.
3. As a further protection to consumers, it is desirable that when the guaranty system is used there be also a minimum guaranty of milk solids not fat of not less than 8.5 per cent.
4. Dealers electing to sell milk under the guaranty system should be required to state conspicuously the guaranty on all containers in which such milk is handled by the dealer or delivered to the consumer.
5. The sale of milk on a guaranty system should be by special permission obtained from some proper local authority.

STANDARD RULES FOR THE PRODUCTION, HANDLING, AND DISTRIBUTION OF MILK.

As a basis for the promulgation of rules and recommendations governing the production, handling, and distribution of milk, it is recognized that we have to deal with two kinds of milk, raw and pasteurized, although there may be several grades of each of these two kinds. In order for any grade to be safe, it is recommended that the regulations herein set forth under the heading "Requirements" should be enforced: The regulations herein set forth under the heading "Recommendations" should be adopted wherever practicable as a means of improving the milk supply above the actual point of safety. (The term "milk" shall be construed to include the fluid derivatives of milk wherever such construction of the term is applicable.)

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LICENSES.

REQUIREMENTS.

No person shall engage in the sale, handling, or distribution of milk in ——— until he has obtained a license therefor from the health authorities. This license shall be renewed on or before the 1st day of ——— of each year and may be suspended or revoked at any time for cause.

RECOMMENDATIONS.

The application for the license shall include the following statements:

(1) Kind of milk to be handled or sold.

(2) Names of producers with their addresses and permit numbers.

(3) Names of middlemen with their addresses.

(4) Names and addresses of all stores, hotels, factories, and restaurants at which milk is delivered.

(5) A statement of the approximate number of quarts of milk, cream, buttermilk, and skim milk sold per day.

(6) Source of water supply at farms and bottling plants.

(7) Permission to inspect all local and out-of-town premises on which milk is produced and handled.

(8) Agreement to abide by all the provisions of State and local regulations.

PERMITS.

REQUIREMENTS.

No person shall engage in the production of milk for sale in ——, nor shall any person engage in the handling of milk for shipment into ——— until he has obtained a permit therefor from the health authorities. This permit shall be renewed on or before the 1st day of ——— of each year and may be suspended or revoked at any time for cause.

Raw Milk.

COW STABLES.

REQUIREMENTS.

1. They shall be used for no other purpose than for the keeping of cows, and shall be light, well ventilated, and clean.
2. They shall be ceiled overhead if there is a loft above.
3. The floors shall be tight and sound.
4. The gutters shall be water-tight.

RECOMMENDATIONS.

1. The window area shall be at least 2 square feet per 500 cubic feet of air space and shall be uniformly distributed, if possible. If uniform distribution is impossible, sufficient additional window area must be provided so that all portions of the barn shall be adequately lighted.
2. The amount of air space shall be at least 500 cubic feet per cow, and adequate ventilation besides windows shall be provided.
3. The walls and ceilings shall be whitewashed at least once every six months, unless the construction renders it unnecessary, and shall be kept free from cobwebs and dirt.
4. All manure shall be removed at least twice daily and disposed of so as not to be a source of danger to the milk either as furnishing a breeding place for flies or otherwise.
5. Horse manure shall not be used in the cow stable for any purpose.

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MILK ROOM.

REQUIREMENTS.

Every milk farm shall be provided with a milk room that is clean, light, and well screened. It shall be used for no other purpose than for the cooling, bottling, and storage of milk and the operations incident thereto.

RECOMMENDATIONS.

1. It shall have no direct connection with any stable or dwelling.
2. The floors shall be of cement or other impervious material, properly graded and drained.
3. It shall be provided with a sterilizer unless the milk is sent to a bottling plant, in which case the cans shall be sterilized at the plant.
4. Cooling and storage tanks shall be drained and cleaned at least twice each week.
5. All drains shall discharge at least 100 feet from any milk house or cow stable.

COWS.

REQUIREMENTS.

1. A physical examination of all cows shall be made at least once every six months by a veterinarian approved by the health authorities.
2. Every diseased cow shall be removed from the herd at once and no milk from such cows shall be offered for sale.
3. The tuberculin test shall be applied at least once a year by a veterinarian approved by the health authorities.
4. All cows which react shall be removed from the herd at once, and no milk from such cows shall be sold as raw milk.
5. No new cows shall be added to a herd until they have passed a physical examination and the tuberculin test.
6. Cows, especially the udders, shall be clean at the time of milking.
7. No milk that is obtained from a cow within 15 days before or 5 days after parturition, nor any milk that has an unnatural odor or appearance, shall be sold.
8. No unwholesome food shall be used.

RECOMMENDATIONS.

1. Every producer shall allow a veterinarian employed by the health authorities to examine his herd at any time under the penalty of having his supply excluded.
2. Certificates showing the results of all examinations shall be filed with the health authorities within 10 days of such examinations.
3. The tuberculin tests shall be applied at least once every six months by a veterinarian approved by the health authorities, unless on the last previous test no tuberculosis was present in the herd or in the herds from which new cows were obtained, in which event the test may be postponed an additional six months.
4. Charts showing the results of all tuberculin tests shall be filed with the health authorities within 10 days of the date of such test.
5. The udders shall be washed and wiped before milking.

EMPLOYEES:

REQUIREMENTS.

1. All employees connected in any way with the production and handling of milk shall be personally clean and shall wear clean outer garments.
2. The health authorities shall be notified at once of any communicable disease in any person that is in any way connected with the

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production or handling of milk, or of the exposure of such person to any communicable disease.

3. Milking shall be done only with dry hands.

RECOMMENDATIONS.

1. Clean suits shall be put on immediately before milking.
2. The hands shall be washed immediately before milking each cow, in order to avoid conveyance of infection to the milk.

UTENSILS.

REQUIREMENTS.

1. All utensils and apparatus with which milk comes in contact shall be thoroughly washed and sterilized, and no milk utensil or apparatus shall be used for any other purpose than that for which it was designed.

2. The owner's name, license number, or other identification mark, the nature of which shall be made known to the health authorities, shall appear in a conspicuous place on every milk container.

3. No bottle or can shall be removed from a house in which there is, or in which there has recently been, a case of communicable disease until permission in writing has been granted by the health authorities.

4. All metal containers and piping shall be in good condition at all times. All piping shall be sanitary milk piping, in couples short enough to be taken apart and cleaned with a brush.

5. Small-top milking pails shall be used.

RECOMMENDATIONS.

1. All cans and bottles shall be cleaned as soon as possible after being emptied.
2. Every conveyance used for the transportation or delivery of milk, public carriers excepted, shall bear the owner's name, milk-license number, and business address in uncondensed gothic characters at least 2 inches in height.

MILK.

REQUIREMENTS.

1. It shall not be strained in the cow stable, but shall be removed to the milk room as soon as it is drawn from the cow.

2. It shall be cooled to 50° F. or below within two hours after it is drawn from the cow and it shall be kept cold until it is delivered to the consumer.

3. It shall not be adulterated by the addition to or the subtraction of any substance or compound, except for the production of the fluid derivatives allowed by law.

4. It shall not be tested by taste at any bottling plant, milk house, or other place in any way that may render it liable to contamination.

5. It shall be bottled only in a milk room or bottling plant for which a license or permit has been issued.

6. It shall be delivered in bottles, or single service containers, with the exception that 20 quarts or more may be delivered in bulk in the following cases:

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(*a*) To establishments in which milk is to be consumed or used on the premises.

(*b*) To infant-feeding stations that are under competent medical supervision.

7. It shall not be stored in or sold from a living room or from any other place which might render it liable to contamination.

RECOMMENDATIONS.

1. It shall be cooled to 50° F. or below immediately after milking and shall be kept at or below that temperature until it is delivered to the consumer.
2. It shall contain no visible foreign material.
3. It shall be labeled with the date of production.

RECEIVING STATIONS AND BOTTLING PLANTS.

REQUIREMENTS.

1. They shall be clean, well screened, and lighted, and shall be used for no other purpose than the proper handling of milk and the operations incident thereto, and shall be open to inspection by the health authorities at any time.

2. They shall have smooth, impervious floors, properly graded and drained.

3. They shall be equipped with hot and cold water and steam.

4. Ample provision shall be made for steam sterilization of all utensils, and no empty milk containers shall be sent out until after such sterilization.

5. All utensils, piping, and tanks shall be kept clean and shall be sterilized daily.

RECOMMENDATIONS.

1. Containers and utensils shall not be washed in the same room in which milk is handled.

STORES.

REQUIREMENTS.

1. All stores in which milk is handled shall be provided with a suitable room or compartment in which the milk shall be kept. Said compartment shall be clean and shall be so arranged that the milk will not be liable to contamination of any kind.

2. Milk shall be kept at a temperature not exceeding 50° F.

RECOMMENDATIONS.

1. Milk to be consumed off the premises may be sold from stores only in the original unopened package.

GENERAL REGULATIONS.

REQUIREMENTS.

1. The United States Bureau of Animal Industry score card shall be used, and no milk from a dairy that scores below 70 on such card shall be sold.

2. Every place where milk is produced or handled and every conveyance used for the transportation of milk shall be clean.

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3. All water supplies shall be from uncontaminated sources and from sources not liable to become contaminated.

4. The license or permit shall be kept posted in a conspicuous place in every establishment for the operation of which a milk license or permit is required.

5. No milk license or permit shall at any time be used by any person other than the one to whom it was granted.

6. No place for the operation of which a license or permit is granted shall be located within 100 feet of a privy or other possible source of contamination, nor shall it contain or open into a room which contains a water-closet.

7. No skim milk or buttermilk shall be stored in or sold from cans or other containers unless such containers are of a distinctive color and permanently and conspicuously labeled "skim milk" or "buttermilk," as the case may be.

8. No container shall be used for any other purpose than that for which it is labeled.

RECOMMENDATIONS.

1. Ice used for cooling purposes shall be clean and uncontaminated.
2. No person whose presence is not required shall be permitted to remain in any cow stable, milk house, or bottling room.

SUBNORMAL MILK.

REQUIREMENTS.

1. Natural milk that contains less than 3.25 per cent, but more than 2.5 per cent milk fat, and that complies in all other respects with the requirements above set forth, may be sold, provided the percentage of fat does not fall below a definite percentage that is stated in a conspicuous manner on the container; and further provided that such container is conspicuously marked "substandard milk."

CREAM.

REQUIREMENTS AND RECOMMENDATIONS.

1. It shall be obtained from milk that is produced and handled in accordance with the provisions hereinbefore set forth for the production and handling of milk.

STANDARDS FOR MILK.

REQUIREMENTS.

1. It shall not contain more than 100,000 bacteria per cubic centimeter.
2. It shall contain not less than 3.25 per cent milk fat.
3. It shall contain not less than 8.5 per cent solids not fat.

RECOMMENDATIONS.

1. The bacterial limit shall be lowered if possible.

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STANDARDS FOR CREAM.

REQUIREMENTS.

1. It shall not contain more than 300,000 bacteria per cubic centimeter.
2. It shall contain not less than 18 per cent milk fat.

RECOMMENDATIONS.

Same as above for milk.

STANDARDS FOR SKIM MILK.

REQUIREMENTS.

1. It shall contain not less than 8.75 per cent milk solids.
2. Control of sale of skim milk: Whether skim milk is sold in wagons or in stores, all containers holding skim milk should be painted some bright, distinctive color and prominently and legibly marked "skim milk." When skim milk is placed in the buyer's container, a label or tag bearing the words "skim milk" should be attached.

Pasteurized Milk.

Pasteurized milk is milk that is heated to a temperature of not less than 140° F. for not less than 20 minutes, or not over 155° F. for not less than 5 minutes, and for each degree of temperature over 140° F. the length of time may be 1 minute less than 20. Said milk shall be cooled immediately to 50° F. or below and kept at or below that temperature.

COW STABLES.

REQUIREMENTS.

The same as for the production of raw milk.

RECOMMENDATIONS.

The same as for the production of raw milk.

MILK ROOM.

REQUIREMENTS.

The same as for the production of raw milk.

RECOMMENDATIONS.

The same as for the production of raw milk.

COWS.

REQUIREMENTS.

The same as for the production of raw milk, with the exception of the sections relating to the tuberculin test.

RECOMMENDATIONS.

That no cows be added to a herd excepting those found to be free from tuberculosis by the tuberculin test.

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EMPLOYEES.

REQUIREMENTS.

The same as for the production of raw milk.

RECOMMENDATIONS.

The same as for the production of raw milk.

UTENSILS.

REQUIREMENTS.

The same as for the production of raw milk.

RECOMMENDATIONS.

The same as for the production of raw milk.

MILK FOR PASTEURIZATION.

REQUIREMENTS.

1. The same as for the production of raw milk, with the exception of sections 1, 2, and 6*b*.
2. It shall be cooled to 60° F. or below within two hours after it is drawn from the cow, and it shall be held at or below that temperature until it is pasteurized. After pasteurization, it shall be held at a temperature not exceeding 50° F. until delivered to the consumer.
3. Pasteurized milk shall be distinctly labeled as such, together with the temperature at which it is pasteurized, and the shortest length of exposure to that temperature and the date of pasteurization.

RECOMMENDATIONS.

1. No milk shall be repasteurized.
2. The requirements governing the production and handling of milk for pasteurization should be raised wherever practicable.

PASTEURIZING PLANTS.

REQUIREMENTS.

The same as under "Receiving stations and bottling plants" for raw milk.

RECOMMENDATIONS.

The same as under "Receiving stations and bottling plants" for raw milk.

STORES.

REQUIREMENTS.

The same as for raw milk.

RECOMMENDATIONS.

The same as for raw milk.

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GENERAL REGULATIONS.

REQUIREMENTS.

1. The same as for raw milk with the exception that the minimum dairy score shall be 40, and no milk from a dairy that scores below 40 shall be pasteurized for sale, except for industrial purposes.
2. Milk from cows that have been rejected by the tuberculin test, but which show no physical signs of tuberculosis, as well as those which have not been tested, may be sold provided that it is produced and handled in accordance with all the other requirements herein set forth for pasteurized milk.
3. Ice used for cooling purposes shall be clean.

RECOMMENDATIONS.

The same as for raw milk.

PASTEURIZED CREAM.

REQUIREMENTS.

1. It shall be obtained only from milk that could legally be sold as milk under the requirements hereinbefore set forth.
2. Pasteurized cream, or cream separated from pasteurized milk, shall be labeled in the manner herein provided for the labeling of pasteurized milk.

STANDARDS FOR PASTEURIZED MILK.

REQUIREMENTS.

1. It shall not contain more than 1,000,000 bacteria per cubic centimeter before pasteurization, nor over 50,000 when delivered to the consumer, and no colon bacilli in 1 cubic centimeter as determined by cultural methods.
2. The standards for the percentage of milk fat and of total solids shall be the same as for raw milk.

RECOMMENDATIONS.

1. The limits for the bacterial count before pasteurization and after pasteurization should both be lowered if possible.

STANDARDS FOR PASTEURIZED CREAM.

REQUIREMENTS.

1. No cream shall be sold that is obtained from pasteurized milk that could not be legally sold under the provisions herein set forth, nor shall any cream that is pasteurized after separation contain an excessive number of bacteria.
2. The bacterial count of pasteurized cream shall not exceed 100,000 bacteria per cubic centimeter when delivered to the consumer.
3. The percentage of milk fat shall be the same as for raw cream.

Penalty.

Every milk ordinance should contain a penalty clause.

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APPENDIX.

REPORT OF THE COMMITTEE UPON THE MICROSCOPIC EXAMINATION OF MILK AND UPON THE DETERMINATION OF THE DIRT IN MILK.

Inasmuch as the subjects referred to this committee are in some respects new to some members of the commission, the report of this committee is presented in two parts. In the first part are given the important facts concerning the method and the utility of a microscopic examination of milk, and in the second part are presented a few resolutions for consideration by the committee. The data upon which this report is based is partly derived from special work by members of the committee and partly from correspondence and published papers. Letters have been addressed to all laboratories where these methods have been in use, so far as the addresses could be obtained, and from the replies received the following conclusion has been reached:

1. The microscopic examination of raw milk has been somewhat widely adopted, but apparently only in a few places has it been extensively used. In at least two laboratories where it has been tried, it has been given up as unreliable; but in general those who have used the method most are most enthusiastic as to its value.

2. There are two different methods of making a microscopic examination of milk:

(*a*) The use of centrifugal machine by the Stewart-Slack method. This method involves the centrifugalization of 1 or 2 cubic centimeters of milk and smearing of the sediment upon a slide, subsequently staining the same, and is so well known that it is unnecessary to describe it in detail here. It is the method that has been most commonly used. The results of this method vary considerably with details of individual manipulation, with the speed of the centrifugal machine, with the time allowed for centrifugalization, and with other individual factors. As a result, findings of one laboratory can not be commonly compared accurately with those of another, but they are fairly uniform when compared with each other.

(*b*) The direct examination of milk by the Prescott-Breed method. The details of this method are found in the Cent. f. Bact. 11, XXX, p. 337, 1911, but since it is somewhat new a brief description of it will be here given. A capillary tube is prepared, arranged to receive a rubber bulb at one end and marked carefully to deliver one one-hundredth of a cubic centimeter. After a most thorough mixing of the milk, one one-hundredth of a cubic centimeter is removed with the sterilized pipette and spread uniformly over a square centimeter on an ordinary microscopic slide. It is allowed to dry and is fixed with methyl alcohol, after which the fat is dissolved from it by the use of xylol. The smear is then stained either with methyline blue or preferably with one of the blood stains, the Jenner stain or Wright stain being useful for this purpose. If the staining is so deep as to make the specimen too opaque for proper study, it is slightly decolorized with alcohol which removes the stain from the general sediment more readily than it does from the bacteria or the tissue cells. The stained smear is studied under a twelve-inch immersion. The draw tube of the immersion is adjusted so that the field of the microscope covers exactly 15 millimeters and under these circumstances the

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number of bacteria present in the one one-hundredth of a cubic centimeter is exactly 5,000 times the number found in a microscopic field. The counting of a large number of fields (100 fields) and averaging the results multiplied by this number will therefore give approximately the number of cells or bacteria contained in a one one-hundredth cubic centimeter of milk.

This method has the advantage of eliminating all of the errors that are associated with the irregularity in the action of the centrifugal machine and many of the other individual errors connected with the Stewart-Slack method. On the other hand, it has the disadvantage of examining only a small quantity of milk, one one-hundredth of a cubic centimeter being hardly a fair sample. This disadvantage, however, may be met by making a very thorough mixture of the milk before sampling and by making the examination in duplicate. A second disadvantage is the large multiplier that has to be used to reduce the results to 1 cubic centimeter. This, of course, very greatly increases any error that may appear in the observation and introduces an error the extent of which can not yet be stated accurately. It may in a measure be met by making the examination in duplicate and by averaging a large number of plate counts.

3. The chief advantages derived from the microscopic examination of milk are due to the quickness of the method:

(*a*) It makes possible the rapid discarding of poor samples of milk, since reports upon it are possible within a very short time.

(*b*) The quickness with which an examination can be made makes it possible for a single laboratory to examine many more samples of milk than by the older plate method, one person being able to examine and report upon 50 to 100 samples in a half day, and to make the reports upon the same day that the milk is collected.

4. The microscopic study of milk gives information upon the following points:

(*a*) The abundance of cells which are present in the milk.

(*b*) The clumping of these cells, which is frequently noticeable in the centrifugal slime but which is rarely if ever seen in milk that is examined by the direct method above mentioned.

(*c*) The bacterial count.

(*d*) The presence of chain-forming streptococci (in this report when the term streptococci is used, reference is made to chain-forming organisms with at least six elements in a chain).

(*e*) General information concerning the nature of the dirt and the source of the bacteria in the milk. With a little experience one can distinguish certain types of bacteria which comes from farm dirt from those that come from unclean vessels.

5. The estimation of the number of bacteria in milk by microscopic study has the following advantages and disadvantages:

(*a*) It is of no value when the number of bacteria in the milk is low.

(*b*) The microscopic examination gives numbers of bacteria vastly higher than those given by the plate method. (In a series of 20 comparative tests by one member of the committee there was found an average of 5,000 bacteria by the plate method, 700,000 bacteria by the Stewart-Slack method, and 5,000,000 bacteria by the Prescott-Breed method of microscopic examination.)

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(*c*) In determining the total number of bacteria in milk the microscopic examination is far more accurate than the plate method, since it gives practically all of the bacteria present, while the plate method gives only those that grow in special media under special conditions. The microscope, however, fails to distinguish between living and dead bacteria.

(*d*) The Stewart-Slack method of examining milk is of great practical use in those cities which have a bacterial standard of 500,000, since it quickly detects milk which contains bacteria more than this limit without the necessity of making plate count. For samples that contain about 500,000 or less it is necessary to make a plate count in order that the result may be reliable.

(*e*) The data at hand are as yet insufficient to determine the factor by which the milk could be condemned by the Prescott-Breed method. Data at present at hand would seem to indicate that nearly all samples of milk would approach or surpass this limit of 500,000 when the bacteria are determined by the direct method of examination of Prescott-Breed.

(*f*) No constant ratio can be found between the number of bacteria disclosed by the microscope and the number found by the plate count. There is a general parallel but with many irregularities.

6. No method has yet been accepted for accurately distinguishing between the pus cells and other cells that may be in the milk that do not have an origin in inflammatory conditions. Some regard all noticeably clumped cells as indicating pus, stating that upon proper incubation, all such clumpings may be found to be accompanied by chain-forming streptococci. Others regard all polymorpho-nuclear neutrophilic cells as pus. Most, however, at the present time fail to recognize any method of clearly distinguishing pus from tissue cells.

7. A general consensus of opinion has been reached that a high cell count should not alone condemn milk, although it is a matter for suspicion. The cell count varies with the same cow upon different days and it may be increased by simply manipulating the udders. Some believe that clumped cells always indicate an inflammatory condition.

8. A high cell count accompanied by streptococci apparently always indicates udder troubles. In many cases these have been followed up to the dairy, and where this has been done it is almost always possible to find the source in some cow suffering from some trouble in its udders.

9. More data is needed before it can be definitely stated whether ill health in children can be traced to milk that would be condemned by the microscope, although this has apparently been done in some cases.

10. At the present time, it is impossible to agree upon any standard for condemning milk by cell count beyond the general rule that a high cell count accompanied by streptococci indicates an inflammatory condition or otherwise diseased udders.

11. Where the source of the milk is known, microscopic method of study is of great value in picking out animals with diseased udders. It is of a special help in directing attention to a herd that needs inspection, and has been extensively and satisfactorily used in this way.

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In market milk, it is of great value where the source of the milk is known and can be reached, and its chief value is in finding the location of troubles rather than in condemning milk.

12. Concerning the value of the microscopic examination of milk, there are wide differences of opinion among those who have been using it. A few regard it as of little value and have discarded it entirely. Some have thought it of some value, but much less than the bacteriological plate count. Others regard it of more value than the plate count; and some have looked upon it as of so much value as to lead them to substitute it for the older method of bacteriological examination by plates, this latter method of examining having been quite abandoned. The claim is made in these cases that it gives better and quicker results and has been found of practical value in controlling the milk supply by pointing out the sources of trouble. All who have used this method recognize that it gives valuable data.

13. Concerning the dirt test, the committee would make the following statement: Of the several methods of determining the presence of dirt in milk the committee believe that the most valuable is that of filtering it through a cotton disk. This committee would suggest that a standard disk of an inch in diameter be selected for the filtering of a quart of milk, and proportionate-sized disk for smaller amounts of milk. The Lorenze apparatus is a convenient filter for filtering milk through a cotton disk; but various other types than that distinctly known by this name are equally satisfactory. A Gooch crucible may be used conveniently or any other device in which the cotton disk is supported upon a gauze and in such position that milk can be readily filtered through it. To be most efficient, the cotton disk should be subsequently dried and sent to the individual dairyman.

In order to have the best results, the most desirable plan is to do the filtering in the dairy immediately after milking. For this purpose batteries of filters are needed, and these must be warmed in cold weather in order that milk should pass through them readily. If these are used in the dairy, the results thus demonstrated to the dairyman are very convincing. The test is quick and simple and is proving very useful in locating unclean methods. It is much less cumbersome than the somewhat more expensive method of measuring the amount of dirt, and although it does not give a quantitative, but only comparative result, it is as useful for the purpose of detecting and remedying unclean conditions as the more slow and more expensive quantitative methods.

From these data the committee would present the following recommendations:

RECOMMENDATIONS.

1. The direct microscopical examination of raw milk gives very valuable information, since it presents in a few moments a graphic picture of the bacterial content as well as the number of cells and offers a prompt method of excluding some samples of milk which are manifestly unfit for use, doing this promptly. To give the most valuable results, the committee would recommend the use of some good blood stain like the Jenner or the Wright stain.

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2. Because of the irregularities in methods and results, no standard can yet be given for grading milk by the microscopic examination. Special attention is recommended to the presence of polymorphonuclear neutrophilic cells. A high cell count alone is not sufficient to condemn milk, but if accompanied by chain-forming streptococci it is an indication of udder troubles. The presence of streptococci alone is also sufficient to suggest the same conclusion. The microscopic examination is therefore of great use in picking out animals with diseased udders for the purpose of removing them from the dairy herd after a proper examination of individual cows.

3. The data as yet accumulated are insufficient to determine whether the examination of milk by the centrifugal method of the Stewart-Slack type or the direct examination by the Prescott-Breed method gives the most reliable results.

4. The total numbers of bacteria found by the microscopic examination are so out of proportion to those given by those of the plate method that no ratio can be at present drawn between them.

5. The data which have as yet been collected are insufficient to determine whether the microscope examination of pasteurized milk is of any value.

6. The determination of dirt by filtering a quart of milk through a cotton disk of an inch in diameter is advised as of the greatest value in detecting uncleanly conditions and in conveying a most graphic lesson of the need of cleanliness to the dairyman. Preferably this should be done in the dairy where feasible.

METHODS OF REPORTING BACTERIAL COUNTS.

CLASSIFICATION OF DEALERS' MILKS.

The commission recommends the use of North's modification of Levy's method of giving each bacterial count a rating value. This modification consists in the use of such values as can be obtained from a parabolic curve having as ordinates the ratings and as abscissas the bacteria counts. The final statement of a series of bacterial counts is given as a single figure which expresses the sanitary character of the milk in terms of bacteria per cubic centimeter. This figure, it is recommended, shall be known as the "bacterial content."

To warrant a statement of the class or grade in which a given milk belongs, at least four consecutive counts should be made of separate samples of milk taken within a period of not more than four weeks.

All laboratory workers are familiar with the fact that the differences in sanitary importance of high and low bacterial counts are not proportional to the numerical differences. It is recognized that bacteria multiply in geometric progression. A single germ may divide, under favorable conditions, about once every half hour, so that from 1 it will have increased to 281,474,976,710,656 within 24 hours. This means that under favorable conditions, if there were no interruptions and no deaths, 1 germ in a 40-quart can of milk might multiply in 24 hours, so that 1 cubic centimeter of milk would contain over 7,438,000,000. The ability of some bacteria to multiply with extreme rapidity is the reason why high counts should not be given the same value which is given to low counts.

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The method proposed for stating the results of bacterial counts aims to recognize all high counts but at the same time to prevent them from misrepresenting the real character of the milk. The method may at first seem complicated because of its use of higher mathematics, but as a matter of fact is extremely simple.

THE PARABOLIC CURVE.

Without going into a discussion of the properties of the different mathematical curves, it can be stated that a parabola is a regular curve, which increases its distance far more rapidly in a horizontal direction than in a vertical direction, or vice versa, and, consequently, lends itself to the conditions of the problem which faces the bacteriologist who has, on the one hand, bacteria counts which increase enormously in the higher figures, while on the other he has values which he desires to attach to the same, which do not differ so enormously. The values for bacteria counts obtained from the parabola are as follows:

Where

$y^2 = \times 1/100.$

x = bacteria count.

y = rating corresponding.

Bacteria counts.	Normal rating.	Bacteria counts.	Normal rating.	Bacteria counts.	Normal rating.
100	1.00	9,000	9.5	300,000	54.8
200	1.41	10,000	10.0	400,000	63.2
300	1.73	15,000	12.3	500,000	70.8
400	2.00	20,000	14.1	600,000	77.5
500	2.24	25,000	15.8	700,000	83.7
600	2.45	30,000	17.3	800,000	89.5
700	2.65	35,000	18.7	900,000	95.0
800	2.83	40,000	20.0	1,000,000	100.0
900	3.00	45,000	21.2	2,000,000	141.9
1,000	3.16	50,000	22.4	3,000,000	173.0
2,000	4.47	60,000	24.5	4,000,000	200.0
3,000	5.48	70,000	26.4	5,000,000	224.0
4,000	6.32	80,000	28.3	6,000,000	245.0
5,000	7.08	90,000	30.0	7,000,000	265.0
6,000	7.75	100,000	31.6	8,000,000	283.0
7,000	8.37	200,000	44.7	9,000,000	300.0
8,000	8.95	250,000	50.0	10,000,000	316.0

From the diagram of the parabolic curve shown on page 699 the values in the table given were taken. For any bacterial count a corresponding value can be found by observing the point on the curve intersected by the line leading upward from the bacterial count and following the line of rating value which leads to the right or left at this point. Thus the line leading upward from 10,000 bacteria strikes the curve at a point through which passes the line leading to the left having rating value 10, and bacterial line 40,000 meets curve at point intersected by line of rating value 20; bacterial line 1,000,000 meets rating line 100.

In the figure the curve from 40,000 to 100,000 bacteria is much condensed to save space, and from 100,000 to 1,000,000, and again to 4,000,000, is still further condensed; these shortenings account for disjointed appearance.

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This table is used as follows: Assume that a health board laboratory makes four consecutive examinations of the milk of a single dealer, and that these are as follows: 25,000, 70,000, 250,000, and 5,000,000. It desires to determine in what class this milk belongs. To express the character of the milk in a single figure set opposite each bacteria count the normal rating value found in the above table. This would be as follows:

Bacteria count.	Normal ratings.
25,000	15.8
70,000	26.4
250,000	50.0
5,000,000	224.0
	4) 316.2
	79.0—600,000+

After the normal ratings are obtained for each figure, they are added together and averaged, as shown above, giving the average rating 79. Again referring to the table it will be observed that the nearest figure in the normal rating column is 77.5, opposite which is the bacteria count of 600,000. Consequently, the final character of the milk will be expressed by the figure 600,000 bacteria per cubic centimeter. Pursuing this system with all milks makes it possible to express their character in a single figure in terms of bacteria, which it is suggested should be called "the bacterial content."

THE RATING OF A CITY'S ENTIRE MILK SUPPLY.

In the annual report of a city's department of health it is often desirable to compare the results of one year's work with another, or to compare one city's standing with that of another. For these purposes the commission recommends the use of the Levy method of stating the results of bacterial counts. In this method the bacterial counts are first divided into groups, as recommended by the American Public Health Association. To each of these groups certain percentage values are given. The final expression is made as a single figure in terms of percentage.

The groups and the percentage values recommended for each are as follows.

Bacteria.	Rating figure.	Bacteria.	Rating figure.
	Per cent.		*Per cent.*
Under 10,000	100	250,001 to 500,000	20
10,001 to 50,000	90	500,001 to 1,000,000	10
50,001 to 100,000	75	Over 1,000,000	0
100,001 to 250,000	50		

In using the above table all of the bacterial counts are first divided into groups, stating the number in each group. Each number is then

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multiplied by the percentage value of its group, as illustrated in the following table:

Bacteria.	Number of samples.	Rating figure.	Product.
		Per cent.	
Under 10,000	25	100	2,500
10,001 to 50,000	73	90	6,570
50,001 to 100,000	37	75	2,775
100,001 to 250,000	42	50	2,100
250,001 to 500,000	53	20	1,060
500,001 to 1,000,000	23	10	230
Over 1,000,000	12	0	0
Total	265	.....	15,235

$$\frac{15,235}{265} = \text{Average} = 57 \text{ per cent.}$$

The final statement, which is the average of all percentages, is called by Levy the "bacterial index."

In reporting results of laboratory work under city conditions it is desirable that a more detailed statement be given than the single figures of "bacterial content" and "bacterial index," and it is therefore recommended that all tests made or at least all in each group be reported when possible as approved by the laboratory section of the American Public Health Association.

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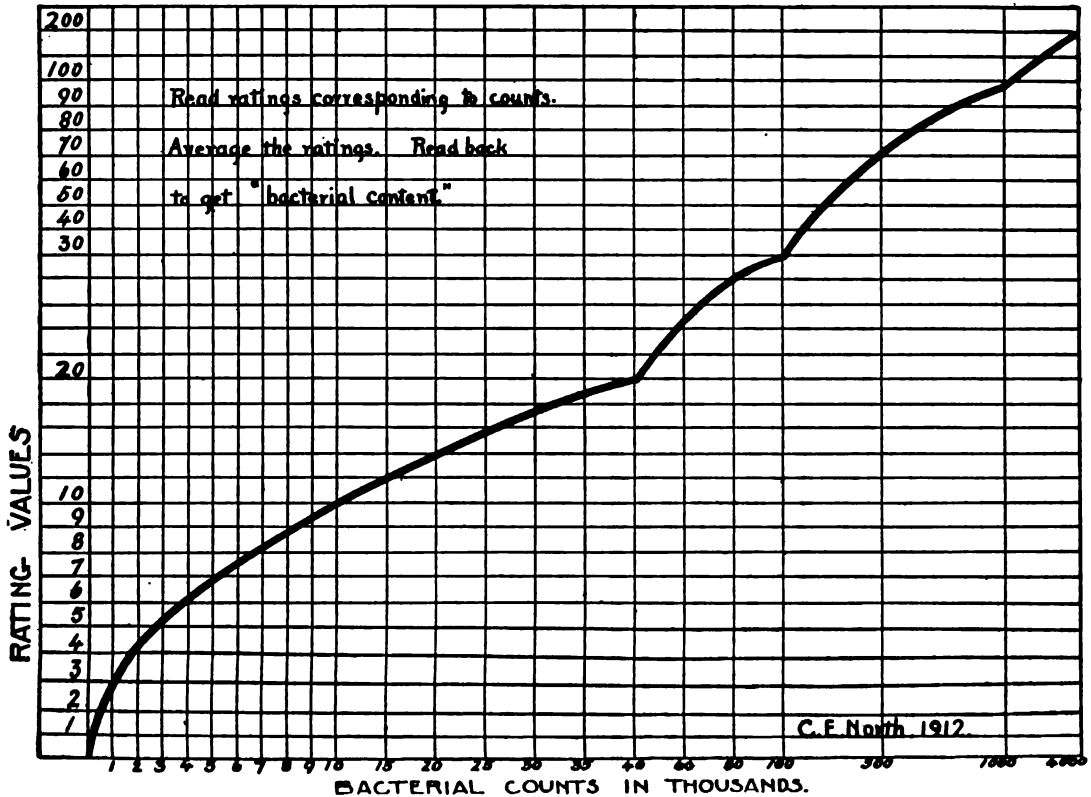
PARABOLIC CURVE FOR BACTERIAL CONTENT.



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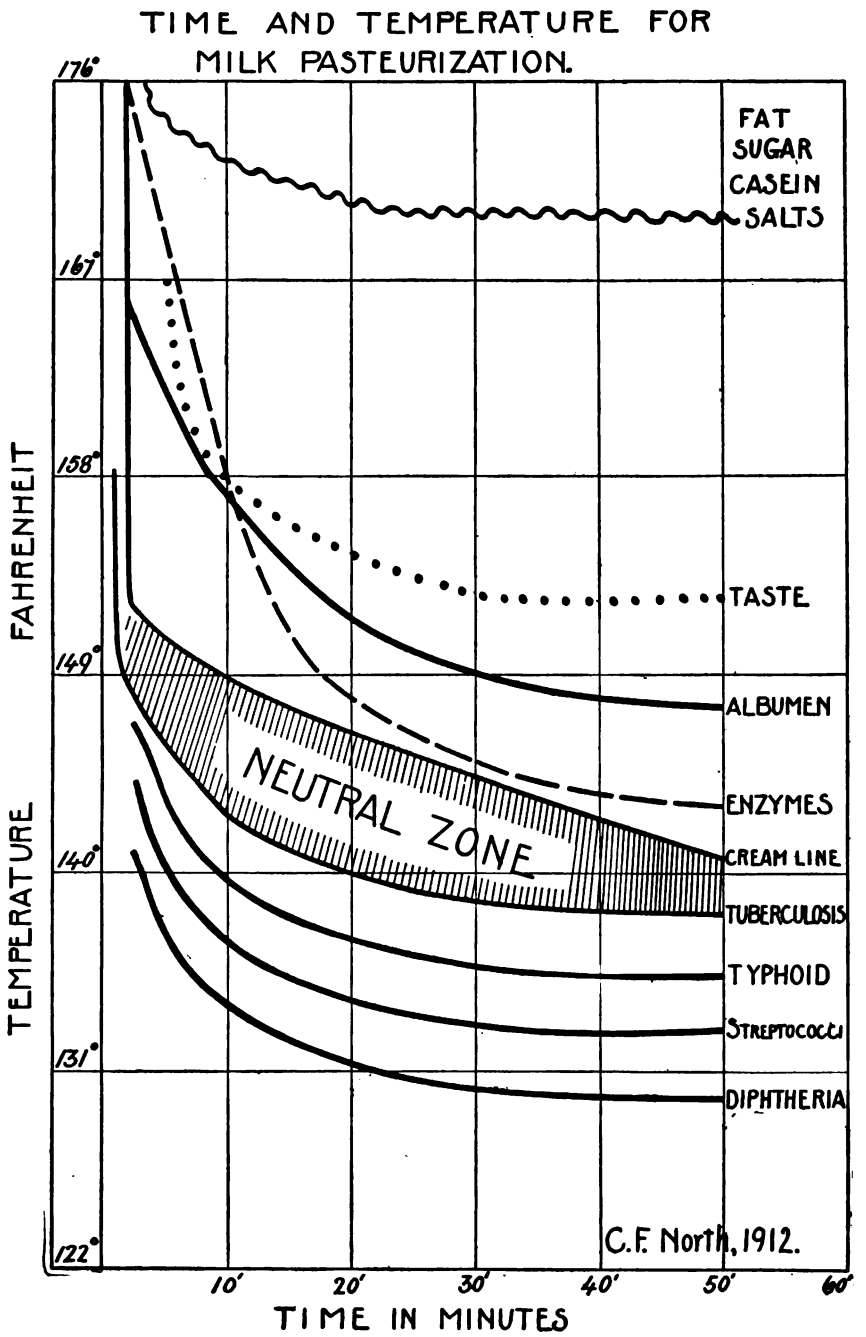

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REPRINTS FROM PUBLIC HEALTH REPORTS.

[Those marked (*) are exhausted and no longer available for distribution. Those marked (†) may be purchased from the Superintendent of Documents at 5 cents a copy. Copies of the Public Health Reports containing these articles will be found in most public libraries, as will also the reprints themselves.]

†1. Precis upon the Diagnosis and Prevention of Smallpox. Reprint from P. H. R. No. 1, Vol. XIV, January 6, 1899. 14 pages. Paper.

2. Plan of Organization for Suppression of Smallpox in Communities not provided with an Organized Board of Health. By C. P. Wertenbaker. Reprint from P. H. R. No. 42, Vol. XIV, October 20, 1899. 23 pages. Paper.

*3. Mortality Statistics of 1,433 Cities and Towns of the United States for the Year Ended December 31, 1898. Reprint from P. H. R. November 10, 1899. 24 pages. Paper. Out of print.

4. The Prophylaxis of Plague by Preventive Inoculations. By Dr. A. Calmette, Director of the Pasteur Institute of Lille. Reprint from P. H. R. No. 34, Vol. XIV, August 24, 1900. 4 pages. Paper.

*5. The International System of Nomenclature of Diseases and Causes of Death (Bertillon Classification, as adopted by the Eighth International Congress of Hygiene and Demography, Paris, August 18–21, 1900. Translated by H. D. Geddings). Reprint from P. H. R. No. 49, Vol. XV, December 7, 1900. 47 pages. Paper. Out of print.

6. Yellow Fever Institute. Description of Organization. By Surgeon General Wyman. Reprint from P. H. R. No. 39, Vol. XVI, September 27, 1901. 7 pages. Paper.

*7. Mortality Statistics of 1,190 Cities and Towns of the United States for the Year ended December 31, 1900. Reprint from P. H. R. No. 40, Vol. XVI, October 4, 1901. 23 pages. Paper. Out of print.

8. Plan for International Agreement of the American Republics for the Sanitation of Certain Seacoast Cities. By Surgeon General Walter Wyman. Reprint from P. H. R. No. 41, Vol. XVI, October 11, 1901. 13 pages. Paper.

†9. The Prevention of the Spread of Scarlet Fever. By H. D. Geddings. Reprint from P. H. R. No. 3, Vol. XVII, January 17, 1902. 8 pages. Paper.

†10. Public Health and Marine-Hospital Service of the United States. An act to increase the efficiency and change the name of the United States Marine-Hospital Service. Reprint from P. H. R. No. 27, Vol. XVII, July 4, 1902. 4 pages. Paper.

*11. Plague Conference. Containing a copy of the address of the chairman and resolutions passed by a conference called in accordance with request from a number of State boards of health, and under authority of section 7, act of Congress approved July 1, 1902, to consider the plague situation. Reprint from P. H. R. No. 4, Vol. XVIII, January 23, 1903. 9 pages. And February 6, 1903. 41 pages. Paper. Out of print.

12. Prophylaxis against Yellow Fever. (Extract from a paper read by Dr. Juan Guiteras before the First International Sanitary Conference of American Republics, held in Washington, D. C., December 2–5, 1902.) Reprint from P. H. R. No. 31, Vol. XVIII, July 31, 1903. 6 pages. Paper.

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*13. Mortality Statistics of 1,563 Cities and Towns of the United States for the Year ended December 31, 1902. Reprint from P. H. R. No. 32, Vol. XVIII, August 7, 1903. 27 pages. Paper. Out of print.

*14. Precis on the Fly and Mosquito as Carriers of Disease. By H. D. Geddings. Reprint from P. H. R. No. 35, Vol XVIII, August 28, 1903. 10 pages. Paper. Out of print.

†15. Precis on the Management of Outbreaks of Smallpox, Diphtheria, and Scarlet Fever. By H. D. Geddings. Reprint from P. H. R. No. 38, Vol. XVIII, September 18, 1903. 18 pages. Paper.

†16. Concerning the Geographic Distribution of the Yellow Fever Mosquito. By L. O. Howard. Reprint from P. H. R. No. 46, Vol. XVIII, November 13, 1903. Out of print. The above revised to September 10, 1905. 14 pages. Paper.

*17. Second General International Sanitary Convention of the American Republics, concluded at Washington, D. C., October 14, 1905. Reprints from P. H. R. No. 5, Vol. XXII, February 1, 1907. 9 pages. Paper. Out of print.

*18. Brief History of Federal and State Action against Tuberculosis in the United States. Reprint from P. H. R. No. 8, Vol. XXII, February 22, 1907. 18 pages. Paper. Out of print.

†19. The Fourth Disease (Filatow–Dukes Disease). By J. W. Schereschewsky. Reprint from P. H. R. No. 19, Vol. XXII, May 10, 1907. 7 pages. Paper.

*20. The Climate of New Mexico. By Paul M. Carrington. Reprint from P. H. R. No. 28, Vol. XXII, July 12, 1907. 15 pages. Paper. Out of print.

21. Dengue Fever, as Observed in Brownsville, Tex., August, 1907. By Joseph Goldberger and George W. McCoy. Reprint from P. H. R. No. 49, Vol. XXII, December 6, 1907. 7 pages. 3 charts. Paper.

22. Plague Investigations in India. Reprint from P. H. R. No. 50, Vol. XXII, December 13, 1907. 21 pages. Paper.

23. The Prophylactic Value of Vaccination. By Henry S. Mathewson. Reprint from P. H. R. No. 5, Vol. XXIII, January 31, 1908. 9 pages. Paper. (Second edition.)

*24. How to Trap Rats. By W. C. Rucker. Reprint from P. H. R. No. 9, Vol. XXIII, February 28, 1908. 4 pages. Paper. Out of print.

*25. Request for Fleas for Identification and for Information Relative to Local Species of Fleas, Rats, and Mice. Reprint from P. H. R. No. 10, Vol. XXIII, March 6, 1908. 4 pages. Paper.

26. Measures to Prevent the Introduction and Spread of Plague. Reprint from P. H. R. No. 22, Vol. XXII, May 29, 1908. 9 pages. Paper.

†27. The Danger and Prevention of Tetanus from Fourth of July Wounds. By John F. Anderson. Reprint from P. H. R. No. 25, Vol. XXIII, June 19, 1908. 4 pages. Paper.

28. Prevention and Destruction of Mosquitos. By Joseph Goldberger. Reprint from P. H. R. No. 29, Vol. XXIII, July 17, 1908. 11 pages. Paper. (3d edition.)

†29. Notes on Rat Leprosy and the Fate of Human and Rat Lepra Bacilli in Flies. By Wm. B. Wherry. Reprint from P. H. R. No. 42, Vol. XXIII, October 16, 1908. 8 pages. Paper.

†30. California Ground Squirrels. By C. Hart Merriam. Reprint from P. H. R. No. 52, Vol. XXIII, December 25, 1908. 8 pages. Paper.

†31. Experimental Investigation of Biting of Man by Fleas from Rats and Squirrels. By George W. McCoy and Maurice B. Mitzmain. Reprint from P. H. R. No. 8, Vol. XXIV, February 19, 1909. 9 pages. Paper.

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†32. Campaign Against Ground Squirrels in Contra Costa County, California. By Rupert Blue. Reprint from P. H. R. No. 21, Vol. XXIV, May 21, 1909. 5 pages. Paper.

*33. Colored Antituberculosis League. Proposed Plan of Organization. By C. P. Wertenbaker. Reprint from P. H. R. No. 22, Vol. XXIV, May 28, 1909. 9 pages. Paper. Out of print.

†34. The Prevalence of Pellagra in the United States. A Statistical and Geographical Note with Bibliography. By C. H. Lavinder, C. F. Williams, and J. W. Babcock. Reprint from P. H. R., No. 25, Vol. XXIV, June 18, 1909. 6 pages. Paper.

†35. Epidemic of an Urticarioid Dermatitis Due to a Small Mite (Pediculoides ventricosus) in the Straw of Mattresses. By Joseph Goldberger and Jay F. Schamberg. Reprint from P. H. R., No. 28, Vol. XXIV, July 9, 1909. 6 pages. Paper.

†36. Hookworm Disease in its Relation to the Negro. By Ch. Wardell Stiles. Reprint from P. H. R., No. 31, Vol. XXIV, July 30, 1909. 10 pages. Paper.

37. The Treatment of Hookworm Disease. By Ch. Wardell Stiles. Reprint from P. H. R., No. 34, Vol. XXIV, August 20, 1909. 5 pages. Paper.

38. Plague Among Ground Squirrels in Cantra Costa County, California. By W. C. Rucker. Reprint from P. H. R., No., 35, Vol. XXIV, August 27, 1909. 18 pages. Paper.

39. A Working Plan for Colored Antituberculosis Leagues. By C. P. Wertenbaker. Reprint from P. H. R., No. 36, Vol. XXIV, September 3, 1909. 12 pages. Paper.

†40. Notes on the Prognosis and Treatment of Pellagra. By C. H. Lavinder. Reprint from P. H. R., No. 37, Vol. XXIV, September 10, 1909. 10 pages. Paper.

41. The Second International Conference on Leprosy, held in Bergen, Norway, August 16 to 19, 1909. By Donald H. Currie. Reprint from P. H. R., No. 38, Vol. XXIV, September 17, 1909. 10 pages. Paper.

†42. Soil Pollution and its Relation to Hookworm Disease and Typhoid Fever. By Ch. Wardell Stiles. Reprint from P. H. R., Vol. XXIV, No. 40, October 1, 1909. 10 pages. 3 illustrations. Paper.

†43. The Prophylaxis of Pellagra. By C. H. Lavinder. Reprint from P. H. R., Vol. XXIV, No. 44, October 29, 1909. 13 pages. Paper.

44. Summary of Transactions of the Public Health and Marine-Hospital Service, Fiscal Year 1909, and to November 1, 1909. Reprint from P. H. R., Vol. XXIV, No. 50, December 10, 1909. 16 pages. Paper.

45. The Evidence of Plague Infection Among Ground Squirrels. By George W. McCoy. Reprint from P. H. R., Vol. XXV, No. 2, January 14, 1910. 8 pages. Paper.

46. What the Local Health Officer Can Do in the Prevention of Typhoid Fever. By L. L. Lumsden. Reprint from P. H. R., Vol. XXV, No. 5, February 4, 1910. 14 pages. Paper. (Second edition.)

†47. The Straw Itch (Dermatitis Schambergi): A Disease New to American Physicians. By Joseph Goldberger. Reprint from P. H. R., Vol. XXV, No. 23, June 10, 1910. 8 pages. 2 illustrations. Paper.

48. What the Mayor and City Council Can Do in the Prevention of Typhoid Fever. By L. L. Lumsden. Reprint from P. H. R., Vol. XXV, No. 24, June 17, 1910. 14 pages. Paper. (Second edition.)

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49. The Present Organization and Work for the Protection of Health in the United States. By Walter Wyman. Reprint from P. H. R., Vol. XXV, No. 38, September 23, 1910. 13 pages. Paper. (Second edition.)

*50. The History, Development, and Statistics of Milk Charities in the United States. By J. W. Kerr. Reprint from P. H. R., Vol. XXV, No. 39, September 30, 1910. 19 pages. Paper. Out of print.

†51. Pulmonary Hemorrhage in the Tuberculous at High Altitude (6,200 feet); Report of 56 Deaths; Frequency of Associated Heart Disease. By F. C. Smith. Reprint from P. H. R., Vol. XXV, No. 40, October 7, 1910. 9 pages. Paper.

52. Bacteriological Procedure in Suspected Cholera, with Report of a Positive Case. By John F. Anderson and A. M. Stimson. Reprint from P. H. R., Vol. XXV, No. 42, October 21, 1910. 5 pages. Paper.

53. Cholera: Its Nature, Detection, and Prevention. By A. J. McLaughlin. Reprint from P. H. R., Vol. XXV, No. 44, November 2, 1910. 20 pages. Paper. (Third edition.)

†54. Preliminary Note on a Simple and Inexpensive Apparatus for Use in Safe Disposal of Night Soil. By L. L. Lumsden, Norman Roberts, and Ch. Wardell Stiles. Reprint from P. H. R., Vol. XXV, No. 45, November 11, 1910. 7 pages. 1 il. Paper.

†55. The Field Investigation of Epidemic Poliomyelitis (What the Health Officer Can Do Toward Solving a National Problem). By W. H. Frost. Reprint from P. H. R., Vol. XXV, No. 46, November 18, 1910. 19 pages. References. Paper.

†56. Report on an Outbreak of Typhoid Fever at Des Moines, Iowa. By L. L. Lumsden. Reprint from the P. H. R., Vol. XXVI, No. 4, January 27, 1911. 26 pages. 2 charts. 1 map. Paper.

†57. Smallpox and Vaccination in the Philippine Islands. By Victor G. Heiser and Robert Oleson. Reprint from the P. H. R., Vol. XXVI, No. 10, March 10, 1911. 6 pages. Paper.

†58. The Typhoid Bacillus Carrier: A Review. By R. M. Grimm. Reprint from the P. H. R., Vol. XXVI, No. 11, March 17, 1911. 17 pages. Paper.

59. Report on an Original Form of Sulphur Burner for Disinfection. By N. Roberts and F. Alex. McDermott. Reprint from the P. H. R., Vol. XXVI, No. 13, March 31, 1911. 10 pages. 2 charts. 1 il. Paper.

†60. A Note on Smallpox and Vaccination in the Philippine Islands. By Victor G. Heiser. Smallpox and Vaccination in Cuba. By P. Villoldo. Reprint from the P. H. R., Vol. XXVI, No. 15, April 14, 1911. 7 pages. Paper.

61. Smallpox in the United States—Prevalence and Geographic Distribution during the Calendar Year 1909. By John W. Trask. Reprint from P. H. R., Vol. XXVI, No. 22, June 2, 1911. 9 pages. 1 table. 2 maps. Paper.

†62. Experimental Measles in the Monkey: A Supplemental Note. By John F. Anderson and Joseph Goldberger. Reprint from the P. H. R., Vol. XXVI, No. 24, June 16, 1911. 11 pages. 2 charts. Paper.

63. Smallpox in the United States—Prevalence and Geographic Distribution during the Calendar Year 1910. By John W. Trask. Reprint from the P. H. R., Vol. XXVI, No. 25, June 23, 1911. 13 pages. 2 tables. 2 maps. Paper.

64. Data Regarding Operations of Infants' Milk Depots in the United States in 1910. By J. W. Kerr. Reprint from the P. H. R., Vol. XXVI, No. 33, August 18, 1911. 20 pages. 8 tables. Paper.

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65. The Salient Epidemological Features of Pellagra. By C. H. Lavinder. Reprint from the P. H. R., Vol. XXVI, No. 39, September 29, 1911. 11 pages. Paper.
66. Antityphoid Vaccination. Extracts from the Report of the Commission appointed by the Academy of Medicine of Paris. Translation by Joseph W. Schereschewsky. Reprint from the P. H. R., Vol. XXVI, No. 40, October 6, 1911. 25 pages. Paper. (Second edition.)
67. Origin and Prevalence of Typhoid Fever in Fort Smith, Ark., and Measures Necessary for its Control. By W. H. Frost. Reprint from the P. H. R., Vol. XXVI, No. 43, October 27, 1911. 19 pages. Paper.
68. The Tarbagan (Arctomys bobac) and Plague. By Paul Preble. Reprint from P. H. R., Vol. XXVII, No. 2, January 12, 1912. 10 pages. Bibliography. Paper.
69. Epidemic Cerebrospinal Meningitis. A Review of its Etiology Transmission, and Specific Therapy, with Reference to Public Measures for its Control. By W. H. Frost. Reprint from P. H. R., Vol. XXVII, No. 4, January 26, 1912. 27 pages. Paper. (Second edition).
70. Municipal Ordinances, Rules, and Regulations Pertaining to Public Hygiene. Adopted from January 1, 1910, to June 30, 1911, by Cities of the United States Having a Population of over 25,000 in 1910. Prepared by direction of the Surgeon General. Reprint from Public Health Reports of March 24, 1911, to January 19, 1912, inclusive. Paper.
71. The Relation of So-called Brill's Disease to Typhus Fever. An Experimental Demonstration of Their Identity. By John F. Anderson and Joseph Goldberger. Reprint from P. H. R., Vol XXVII, No. 5, February 2, 1912. 14 pages. 6 charts. Paper.
72. Vegetables as a Possible Factor in the Dissemination of Typhoid Fever. By R. H. Creel. Reprint from P. H. R., Vol. XXVII, No. 6, February 9, 1912. 9 pages. Paper. (Second edition.)
73. Typhus Fever in the United States. Differential Diagnosis from Typhoid Fever. Reprint from P. H. R., Vol. XXVII, No. 6, February 9, 1912. 5 pages. Paper.
74. The Transmission of Typhus Fever, with Especial Reference to Transmission by the Head Louse (Pediculosis capitis). By Joseph Goldberger and J. F. Anderson. Reprint from P. H. R., Vol. XXVII, No. 9, March 1, 1912. 13 pages. 6 charts. Paper.
75. The Bacteriological Diagnosis of Cholera. A Report Presented to the Permanent Committee of the International Office of Public Hygiene in the name of a Commission Composed of: Messrs. Ruffer, president; Calmette, Gaffky, Geddings, Murillo, Praum, and Pottevin, reporter. Translated from the French by Surg. H. D. Geddings, American Delegate on the Permanent Committee. Reprint from P. H. R., Vol. XXVII, No. 11, March 15, 1912. 30 pages. Paper.
76. The Necessity for Safe Water Supplies in the Control of Typhoid Fever. By A. J. McLaughlin. Reprint from P. H. R., Vol. XXVII, No. 12, March 22, 1912. 13 pages. 5 tables. Paper. (Second edition.)
77. Sewage-Polluted Water Supplies in Relation to Infant Mortality. By Allan J. McLaughlin. Reprint from P. H. R., Vol. XXVII, No. 17, April 26, 1912. 36 pages. 24 charts. Paper.
78. Report of the Commission on Milk Standards Appointed by the New York Milk Committee. Reprint from P. H. R., Vol. XXVII, No. 19, May 10, 1912. 30 pages. 2 charts. Paper. (Second edition.)

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79. Investigation of and Tick Eradication in Rocky Mountain Spotted Fever. By Thomas B. McClintic. Reprint from P. H. R., Vol. XXVII, No. 20, May 17, 1912. 31 pages. Bibliography. Paper.
80. Examination of Excreta for Typhoid Bacilli. By L. L. Lumsden and A. M. Stimson. Report of an Outbreak of Typhoid Fever at Lincoln, Nebraska, in 1911. By L. L. Lumsden. Reprint from P. H. R., Vol. XXVII, No. 21, May 24, 1912. Paper.
81. Sanitary Advice for Summer Tourists. Sanitary Advice for the Keepers of Summer Resorts. By W. C. Rucker. Reprint from P. H. R., Vol. XXVII, No. 21, May 24, 1912. Paper.
82. Studies on the Virus of Typhus. By John F. Anderson and Joseph Goldberger. Reprint from P. H. R., Vol. XXVII, No. 22, May 31, 1912. Paper.

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62D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 914.

THE PANAMA CANAL.

MESSAGE

FROM THE

PRESIDENT OF THE UNITED STATES,

SUGGESTING

PASSAGE OF JOINT RESOLUTION RELATIVE TO THE HAY-PAUNCEFOTE TREATY.

AUGUST 19, 1912.—Read, referred to the Committee on Military Affairs, and ordered to be printed.

To the Senate and House of Representatives:

Congress has passed a bill for the government of the Panama Canal when it shall have been completed, in section 5 of which it is provided that no tolls shall be levied upon vessels engaged in the coastwise trade of the United States. Under existing law no vessels but those of the United States can engage in the coastwise trade. The same bill provides for the imposition, within the discretion of the President, of tolls not exceeding $1.25 per net registered ton upon all other vessels using the canal.

In the debates in the House and Senate it was contended that this was a discrimination in favor of vessels of the United States in violation of the following provision of the Hay-Pauncefote treaty:

> The canal shall be free and open to the vessels of commerce and of war of all nations observing these rules, on terms of entire equality, so that there shall be no discrimination against any such nation, or its citizens or subjects, in respect of the conditions or charges of traffic, or otherwise. Such conditions and charges of traffic shall be just and equitable. (Art III, sec. 1, p. 1904.)

After full examination of the Hay-Pauncefote treaty and of the treaty which preceded it, I feel confident that the exemption of the coastwise vessels of the United States from tolls and the imposition of tolls on vessels of all nations engaged in the foreign trade is not a violation of the Hay-Pauncefote treaty. But distinguished lawyers in the House and Senate differ from this construction, and the Secretary of State has received an informal protest from the British Government that the contemplated legislation is a violation of her treaty rights.

The necessity for the enactment of the provisions of the bill looking to the maintenance and government of the canal I have already

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explained in a special message, and this necessity makes me anxious to sign the bill. On the other hand, the question of the foreign relations of the Government is one in respect of which the Executive has especial responsibility, and such a protest from a friendly Government, supported as it is by the expressed views of distinguished Members of both Houses, invites the greatest care and the closest examination on our part of our rights under our treaties, with a view to preserving national honor and observing our solemn obligations.

I am sure that it is not the intention of Congress to violate the Hay-Pauncefote treaty or to enact anything inconsistent with its provisions, and that it certainly is not its purpose to repeal, by subsequent enactment, the treaty, in so far as it represents the law of the land. It is of the highest importance, however, that this attitude should be made clearly known to the nations of the world, and that we should avoid any apparent justification for criticism.

I suggest, therefore, that before the time has elapsed in which I am called upon to express approval or disapproval of this bill Congress consider the wisdom of passing a joint resolution of the following tenor:

That nothing contained in the act entitled "An act to provide for the opening, maintenance, protection, and operation of the Panama Canal, and the sanitation and government of the Canal Zone" shall be deemed to repeal any provision of the Hay-Pauncefote treaty, or to affect the judicial construction thereof, or in any wise to impair any rights or privileges which have been or may be acquired by any foreign nation under the treaties of the United States relative to tolls or other charges for the passage of vessels through the Panama Canal, and that when any alien, whether natural person, partnership, company, or corporation, considers that the charging of tolls or the enforcement of any other regulation under and pursuant to the provisions of this act violates in any way any such treaty rights or privileges, such alien shall have the right to bring an action against the United States for a redress of the injury which he considers himself to have suffered, and the district courts of the United States are hereby given jurisdiction to hear and determine such cases and to decree the appropriate relief, and from the decision of such district courts there shall be an appeal by either party to the action to the Supreme Court of the United States.

Or, in the alternative, that Congress recall the bill and insert the foregoing as an amendment to the bill.

Unless some such clause is embodied in the law, it would probably be contended that the legislative construction of the treaty given by Congress in enacting the law is binding upon our courts when the question of the rights of aliens under the treaty comes before them. The foregoing provision would avoid such effect and would leave the matter entirely free to judicial construction, unaffected by the political decision of either the executive or legislative branch of our Government.

This language negatives absolutely any desire on the part of Congress to repeal the Hay-Pauncefote treaty or to violate its provisions by this legislation and leaves open to any person who deems himself aggrieved by the provisions of the act an opportunity to appeal to our courts.

I think the importance of our standing before the world as anxious to give to the world an opportunity to test this question in the courts is an earnest of our good faith in attempting to keep within our treaty obligations.

WM. H. TAFT.

THE WHITE HOUSE, *August 19, 1912.*

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62D CONGRESS, 2d Session } HOUSE OF REPRESENTATIVES { DOCUMENT No. 915

Issued June 15, 1912.

U. S. DEPARTMENT OF AGRICULTURE,

BUREAU OF SOILS—MILTON WHITNEY, Chief.

IN COOPERATION WITH THE STATE OF ALABAMA, EMMETT O'NEAL, GOVERNOR; REUBEN F. KOLB, COMMISSIONER AGRICULTURE AND INDUSTRIES; EUGENE A. SMITH, STATE GEOLOGIST.

SOIL SURVEY OF RANDOLPH COUNTY, ALABAMA.

BY R. T. AVON BURKE, OF THE U. S. DEPARTMENT OF AGRICULTURE, AND A. C. McGEHEE AND W. E. WILKINSON, OF THE ALABAMA DEPARTMENT OF AGRICULTURE AND INDUSTRIES.

HUGH H. BENNETT, INSPECTOR IN CHARGE, SOUTHERN DIVISION.

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LETTER OF TRANSMITTAL.

U. S. DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
Washington, D. C., December 15, 1911.

SIR: In the extension of the soil survey work in the State of Alabama work was undertaken in Randolph County during the field season of 1911. This work was done in cooperation with the Alabama department of agriculture and industries, R. F. Kolb, commissioner. The selection of the area was made after conference with the State officials, and was indorsed by the Hon. J. T. Heflin, within whose congressional district the county lies.

I have the honor to transmit herewith the manuscript report and map covering this work, and to recommend their publication as advance sheets of Field Operations of the Bureau of Soils for 1911, as authorized by law.

Respectfully,

MILTON WHITNEY,
Chief of Bureau.

Hon. JAMES WILSON,
Secretary of Agriculture.

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MAP.

Soil map, Randolph County sheet, Alabama.

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SOIL SURVEY OF RANDOLPH COUNTY, ALABAMA.

By R. T. AVON BURKE, of the U. S. Department of Agriculture, and A. C. McGEHEE and W. E. WILKINSON, of the Alabama Department of Agriculture and Industries.

DESCRIPTION OF THE AREA.

Randolph County, Alabama, is situated in the east-central part of the State. On the north it is bounded by Cleburne, on the east by Carroll, Heard, and Troup Counties, Georgia, on the south by Chambers and Tallapoosa Counties, and on the west by Clay County.

In outline the county is quite regular, with the exception of the northeast corner, where the Little Tallapoosa River forms the boundary. It is rectangular in shape, with the exception of the eastern boundary, which diverges westward from a north-and-south line, making the distance across the county along the southern boundary 24⅛ miles, whereas along the north boundary it is 19¼ miles. The north and south dimension is about 26 miles and the included area 583 square miles, or 372,120 acres.

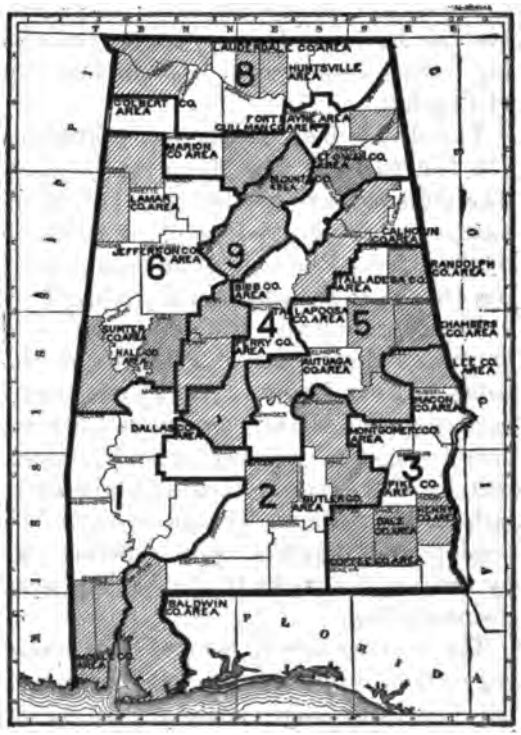

FIG. 1.—Sketch map showing location of areas surveyed in Alabama.

The county is well watered by rivers and creeks and their tributaries, and lies within the Tallapoosa and Chattahoochee drainage system. The former receives the greater part of the drainage. The Tallapoosa and the Little Tallapoosa Rivers unite just north of Burrow Ferry. The course of the Little Tallapoosa River is very winding. Many creeks, streams, and branches are tributary to it, draining the central, north,

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and northeast parts of the county, the most important being Knokes, Cutnose, Cohobadiah, Cane, Bear, Wolf, and Piny Creeks.

The Tallapoosa rises in Cleburne County and flows south through the area within a few miles of the western boundary. The course of this river is not so tortuous as the Little Tallapoosa, but it is quite indirect. It drains the western and southwestern part of the county directly by way of Kitchabadoggo, Lost, Little Piny Woods, Sand, Mad Indian, Fox, Crooked, Cornhouse, Wild Cat, Hurricane, Cedar, and Hutton Creeks, and numerous small branches. The Tallapoosa also receives the waters of High Pine Creek, which empties into the river in Chambers County. High Pine is one of the most important streams of Randolph County, draining the south-central part. The surplus waters of the eastern and southeastern portions of the area drain into the Chattahoochee system by way of Wehadkee Creek and its tributaries, Little Wehadkee and Guss Creeks. The Wehadkee flows south and east, joining the Chattahoochee River in Troup County, Georgia. A few branches belonging to this same system head in Randolph County north and south of Omaha.

The divide between the two watersheds varies in elevation from 750 feet to 1,550 feet above sea level. Its width is quite variable. The streams have headed back so far in places as to make it quite narrow, while in other places it attains a width of 2 to 3 miles, extending from Black Jack Mountain south and southwestward, leaving Omaha to the east and including Potash, Pittman, and Roanoke.

Physiographically Randolph County is included within what is known as the Piedmont Plateau, which extends from central Alabama to New Jersey. This at one time was a high mountain range bordering the Atlantic Ocean, and was reduced to its present appearance by ages of weathering and erosion. It is now flanked on the east by the Atlantic Coastal Plain and on the west by the Appalachian Mountains. The inequality of the surface features is due to erosion and depends upon different degrees of resistance offered by the various rocks to the various agencies of decomposition and disintegration.

The watercourses in general have considerable fall and are actively engaged in deepening their channels, and as a result the rivers have developed but narrow bottoms, not continuous, but cut off in places as the river swings toward the bluffs on one side or the other. The bottoms are developed to a greater extent along some of the larger streams.

A glance again at the variation noted in the elevation of the divide will give some idea of its general range, the lowest elevation being in the southern part and the highest in the northern part of the county. The surface features east and south of the divide are not

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so rough as the area north of it, but are more rugged as the divide is approached. In the vicinity of Roanoke, and particularly east, south, and southeast, the county is characterized by low, rolling ridges. The approaches to the watercourses, although frequently steep, are not abrupt. The same topography occurs in the vicinity of Wadley and westward. North and west of the divide the country consists of rolling and roughly rolling ridges or hilly to mountainous country.

A number of structural plains have been developed throughout this area, particularly in the vicinity of Omaha; also around Peace, Napoleon, in the neighborhood of Tenant, and north of West.

Public roads extend to all parts of the area. They were not laid out under any definite system, but an effort has been made to avoid grades as much as possible. Proportionately more roads occur in the southern and eastern parts of the county, where the surface features are less rugged and where the country is more thickly settled, while the roads encountered in the western and northwestern parts of the area are comparatively few in number. The roads in general, so long as the weather is dry, are fairly good, but in the winter and early spring, when there is a great deal of rain, hauling is difficult. Road material is plentiful throughout the county, and good, permanent highways could be economically built and maintained.

A comprehensive system of local and long-distance telephone lines has been established throughout the county. These have been developed by the farmers themselves and have added much to the life on the farm. The rural free delivery of mail reaches nearly all the homes in the county.

The population of Randolph County, according to the census of 1910, is 24,659. It is almost entirely native born, very few foreigners having come in since the early settlement. Roanoke, Malone, Wedowee, Wadley, Graham, and Rock Mills are important towns.

Churches and schoolhouses are conveniently located throughout the county; a first-class high school, in connection with a normal institute, is located at Roanoke, and one also at Wedowee. Gins and gristmills are very numerous throughout the area, and a first-class flour mill is situated on the Little Tallapoosa River a few miles from Graham. Rock Mills and Roanoke each have a cotton mill, the latter town possessing also a good fertilizer plant.

Railroad facilities for the county are far from satisfactory. A spur of the Central of Georgia extends from Opelika and terminates at Roanoke. The Atlanta, Birmingham & Atlantic enters the county below Cragford, following Crooked Creek to the Tallapoosa, passing through the towns of Malone and Wadley, and continuing beyond the Chambers County line. It enters Randolph County again just west of where High Pine Creek leaves the county, continuing to Roanoke and into Chambers County, a few miles west of the southeast corner.

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Wedowee, the county seat, is 15 miles from the Atlanta, Birmingham & Atlantic and the Central of Georgia at Roanoke and 10 miles from the former at Malone. A branch of the Central of Georgia extends to Bowdon, Ga., just a few miles from the northeast corner of the county, while the nearest railroad point on the Southern Railway is Heflin, about 12 miles north of the county line in Cleburne County. Lineville, in Clay County, is the point on the Atlanta, Birmingham & Atlantic nearest to the northwestern part of the area.

The local markets of the county are the towns mentioned and the more remote Birmingham and Atlanta, distant from Roanoke 143 and 55 miles, respectively.

CLIMATE.

The climate of Randolph County is temperate. The winters are generally mild. Recurrent cold snaps are frequent, but of rather brief duration, and the temperature rarely falls below zero. The most disagreeable feature of the winter is the frequent occurrence of prolonged misty rains, which are usually accompanied by east or southeast winds and may be followed or preceded by light flurries of snow. It will be noted in the table given below that there is little difference in the monthly mean temperature of the winter months, although there is a range from 10° below zero to 75° F. at Anniston, the lowest temperature being recorded for February and the highest for December and February.

The summers are usually agreeable, although there are days that are hot and oppressive. The nights are always cool, being tempered by a breeze from the Gulf of Mexico, which reaches this area from the southwest. The average monthly mean temperature for the summer is 77° F. and the lowest absolute minimum 44° F. during the month of June. The absolute maximum so far recorded is 103° F., occurring in August.

The precipitation in Randolph County is ample for the growth of crops and is well distributed throughout the year. The annual mean at Anniston is given as 49.1 inches, while 38.5 inches is given for the driest year and 56.1 inches for the wettest year.

Randolph County has exceptionally good water. Springs are quite numerous and water can be secured in wells at depths ranging from 20 to 75 feet.

The average date of first killing frost in autumn is given at Anniston as October 20 and the last in spring as April 2, while the earliest killing frost recorded in autumn was October 6 and the latest in spring on April 20. The average growing season is thus of 201 days duration, which is ample for the production of all the important crops.

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With an altitude that ranges from 550 to 1,550 feet above sea level, local differences in the climate may be expected, but, except in the occurrence of frost, none was apparent. The relative immunity of peaches and cotton on the uplands to the influence of frost in autumn and late in spring as compared with the same crops in the lowlands and valleys is a climatic feature recognized here as elsewhere, and the part it plays in general agriculture is quite important. The susceptibility of cotton in the lowlands is more or less modified by the physical nature of the soil in which the crop is planted. Field observations show that this crop succumbs first on the more sandy soils, whereas it is more resistant on clay and clay loam soils, as there is relatively less replanting on the heavier soils than on those of lighter texture.

The data given in the following table are taken from records kept at Anniston, Calhoun County, no Weather Bureau station being located in Randolph. The statements represent local conditions fairly well.

Normal monthly, seasonal, and annual temperature and precipitation at Anniston.

Month.	Temperature.			Precipitation.			
	Mean.	Absolute maximum.	Absolute minimum.	Mean.	Total amount for the driest year.	Total amount for the wettest year.	Snow, average depth.
	°F.	°F.	°F.	Inches.	Inches.	Inches.	Inches.
December	44	75	7	3.7	4.7	2.3	0.6
January	44	73	7	5.2	4.1	7.1	0.4
February	44	75	−10	4.9	3.8	2.1	1.7
Winter	44	.....	.....	13.8	12.6	11.5	2.7
March	55	84	12	5.4	3.5	6.9	0.3
April	61	88	27	4.6	2.6	3.8	0.0
May	69	94	36	4.0	2.7	10.6	0.0
Spring	62	.....	.....	14.0	8.8	21.3	0.3
June	76	100	44	4.0	4.1	7.6	0.0
July	78	102	56	5.3	4.2	4.1	0.0
August	78	103	56	3.9	1.0	5.1	0.0
Summer	77	.....	.....	13.2	9.3	16.8	0.0
September	73	98	36	2.4	2.5	2.3	0.0
October	63	92	30	3.0	1.5	2.7	0.0
November	51	82	16	2.7	3.8	1.5	0.0
Fall	62	.....	.....	8.1	7.8	6.5	0.0
Year	62	103	−10	49.1	38.5	56.1	3.0

Average date of first killing frost in autumn, October 20; of last in spring, April 2. Date of earliest killing frost in autumn, October 6; of latest in spring, April 20.

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AGRICULTURE.

Randolph County was organized in the year 1832 and named after John Randolph, a noted Virginia statesman. Wedowee (then McDonough), Roanoke, and Louina were the chief trading points at that time. Most of the county was covered with a heavy growth of pine and a more scattering growth of oak, hickory, gum, and walnut. A part of the area was occupied by the Creek Indians, but they were removed in 1836 and 1837. Most of the land was acquired by the early pioneers by Government entry, and the Indian lands at public auction.

Nearly all the old-established families came from Fayette County, Ga., the southern third of the county being settled by slave owners who had acquired large tracts of land. Up to a short time before the war this area was a great cattle country, stock thriving on the luxuriant spring and summer growth of grass and subsisting largely on cane through the winter.

Columbus, Ga., at the head of navigation on the Chattahoochee River, and Wetumpka, on the Coosa River, were the early markets, but with the building of the railroad from Atlanta to Montgomery, West Point, Ga., became the chief market.

Cotton had attained considerable importance in this county before the war and has become the dominant crop since. The early practice was to produce the crop year after year on the same fields, and when the yields declined to take in more new ground, abandoning the old fields to weeds and brush. Some idea of the agriculture during this period can be obtained from data collected by the Census Bureau for the years 1879, 1889, and 1899. The land planted to cotton increased from 23,177 acres in 1879 to 28,387 acres in 1889 and to 43,871 acres in 1899. The production in 1879 was 7,475 bales and for 1899, 17,148, and assuming that the seasons were comparable, a very decided increase in rate of yield took place within this period. The expenditure for fertilizers for the years 1879 and 1889 was $48,299 and $48,271, respectively. In 1899 the amount expended for this purpose was $78,470.

The production of corn has also increased in the 20 years under consideration, the acreage rising from 29,595 in 1879 to 41,758 in 1899. The rate of yield, however, shows less change than in case of cotton. It was 11.2 bushels in 1879 and only 12.1 bushels in 1899, though seasonal factors may have made greater difference with corn than with cotton. The acreage in oats was 4,850 in 1879, and continued at approximately this figure until 1899. Wheat attained its maximum acreage in 1879, when 10,156 acres were in this crop. The acreage fell to 2,697 in 1889, but increased to 7,365 in 1899. The acreage in rye and barley has always been small. Irish potatoes are grown

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largely in home gardens for local consumption. Sweet potatoes have always been one of the more important of the minor crops, between 400 and 600 acres being given to their production. Sorghum and ribbon cane are grown in occasional patches.

The authority quoted gives the number of acres of improved farm land for the year 1899 as 303,472, as against 300,105 in 1889 and 278,602 in 1879. Fully 60 per cent of this land is used for pasture or is lying fallow, as the aggregate acreage of cultivated crops in 1899 was only 110,106. The same authority gives the average size of farms in 1879 as 123 acres; 136 acres in 1889; and 84.7 acres in 1899. This might at first be considered a change to much better farming, but when the percentage of farms operated by the owners is noted a different conclusion may be drawn. In 1879 this percentage was 68.3, in 1889 it was 72.9, and in 1899 it was only 44.3. Thus it will be seen that in 1899, 55.7 per cent of all the farms were operated by tenants and their holdings were classified as separate farms.

The system of land tenure differs in various parts of the county. The most common method is to lease the land for a share of the crops. On this basis the tenant turns over one-third of the cotton and one-fourth of the corn to the landlord, and supplies the labor, work stock, tools, etc. Where the landlord supplies work stock and tools, the tenant keeps one-half the produce. Very little land is rented for cash, but a good deal of it is rented for what is known as standing rent, which is about two bales of cotton for each 30 acres of land. The tenants, as a rule, are dependent upon the landlord or local merchant for subsistence during the growing of the crops. The obligations are usually paid each fall from the surplus crop after the landlord's claims have been settled.

In some sections of the county labor is quite plentiful, while in others great difficulty is experienced in securing reliable and moderately efficient help. Labor when employed by the month receives from $15 to $20 with board or $25 without, while day laborers receive from 75 cents to $1.50.

Cotton is the most important crop of the area, and it is believed that the acreage has increased considerably since the year 1899. In general, methods employed in the production of this staple have not changed materially in recent years. Most of the land is prepared in the spring by bedding on the water furrow of the previous year. This bed is opened and fertilizer dropped by hand through long tin funnels, which are dragged along the rows, or is less commonly put in with fertilizer distributers and the seed dropped and covered by cotton planters. The crop usually receives two hoeings. The cultivation is usually done with scrapes and sweeps and is generally shallow and frequent. At the last cultivation the beds are left as slight ridges. In the less rugged country some of the land is prepared in

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the fall. It is broken flat with a 1 or 2 horse turnplow, or more rarely with a disk plow, and bedded the following spring.

The acreage of corn has increased with that of cotton, and although the average yield per acre is not much more than 12 bushels, individual yields runs as high as 100 bushels to the acre. Considerable corn is imported into the county each year, and the need of producing a larger crop is becoming more apparent to the farmers and effort is being made to meet this home demand. Most of the corn land is prepared in the spring, and where corn is alternated with cotton the land is prepared the same as for the latter crop and corn planted in every other furrow. Very little corn is now planted on top of the beds, except in the lowlands or bottoms, where the moisture is apt to be excessive and there is danger of the crop being scalded. The practice of breaking the land flat in the fall and bedding in the spring is quite common in the southern part of the area, and the returns more than justify the additional labor involved. Corn is cultivated throughout the county with 1-horse turnplows, scrapes, and sweeps, and in the last cultivation the ground is left flat.

The production of oats has increased considerably in the last decade and now constitutes an important crop of the county. Both fall and spring oats are sown, but the greater proportion is sown in early spring. It is generally conceded that fall oats are more thrifty, make better growth, and give much heavier yields. The common varieties sown are the Rust Proof, Appler, Burt, and Bancroft. The greater part of the oat crop is cut green for hay, a practice that can be commended, particularly when used as a cover crop during the winter. Sowing is usually broadcast by hand, the oats being plowed in with a 1-horse turnplow. A growing practice is to break land flat and put oats in with a fertilizer distributer. A few acres are planted each year with the ordinary grain drill.

Wheat has been a relatively important crop in this county, but the acreage is rapidly decreasing and many failures are reported, although good stands were encountered where the productiveness of the soils had been improved by good methods. Practically all of the wheat grown is sown in the fall. The land is prepared and seeded similarly to that used for oats. The varieties planted are the Purple Stem and Bearded. The former is preferred, as it is not so troublesome to handle. Very few binders are used in this county, as much of the land is too rough for their use. Most of the wheat and oats grown for grain is harvested with the cradle and bound by hand. Small thrashing outfits, which go from farm to farm, are found in almost every section. The price paid for thrashing is usually 6 or 7 cents for wheat and from 2 to 5 cents for oats. The acreage of oats and wheat should be materially increased and these crops be given an important place in cropping systems.

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Sorghum, cowpeas, sweet potatoes, peanuts, sugar cane, rye, Irish potatoes, and barley are minor crops of more or less present importance. Sorghum is grown largely for forage and to a much less extent for sirup. The acreage has decreased somewhat in the last decade. Fifteen years ago cowpeas were only an experimental crop, but 464 acres were planted in 1900. They are grown occasionally for seed, but mainly for summer forage and for their fertilizing value. The other crops mentioned are grown largely for home consumption or are of experimental value only, though destined to have an important place in the agriculture of the future.

The practice of rotating crops systematically is not a general feature of the agriculture of this section, but much more interest is being taken in it now than formerly. It is not uncommon for corn or cotton to be grown in the same fields 4 or 5 years in succession, while some farmers have reported the continuous production of cotton for 15 years. The bottoms along the river and streams are favored places for the continuous production of corn, while proportionately more cotton is grown on the uplands. The growing practice of alternating corn with cotton and planting cowpeas in the corn in the last cultivation is an important step in the direction of a better cropping system, but the intervals between the staple cultivated crops are not sufficient.

Another system, not so generally employed, is to follow the corn with fall-sown oats and the succeeding summer to put in sorghum or a mixture of cowpeas and sorghum. The land is then broken flat and put in cotton the following spring.

Some of the land has been under continuous cultivation for periods ranging from 40 to 60 years, while other areas are not so old, but all have been subjected to most improvident methods, with the result that the soils are generally producing only minimum yields. The great problem that now confronts the farmer of this section is that of building up or improving the productive capacity of the soils so as to lessen the proportional cost of labor, to reduce expenditures for fertilizer, and to be in a better position to meet the advance of the boll weevil, which there is every reason to believe will reach the county before many years. To do this, the land must be more thoroughly prepared, a sufficient supply of organic matter maintained, and the crops systematically rotated, so as to keep the land occupied winter and summer, producing crops of value for food or fertilizer, and protecting the land from surface washing and erosion by the heavy rains in winter and spring.

A few farmers throughout the county are practicing deeper plowing, but in general the plowing is very shallow, being rarely over 4 inches for corn or cotton. A deep and well-prepared seed bed is one of the essentials for the maximum production of crops. A shallow

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seed bed is often too wet under heavy rainfall and too dry in periods of drought. Care should be exercised in deepening the soil, and the required depth of 10 or 12 inches should be attained gradually where the turn plow is used and not over 1 inch of subsoil exposed each year. Where the disk plow is used it can be so regulated that the depth desired can be attained at once and no subsoil brought to the surface. The unweathered subsoil where exposed in large quantities decreases for a time the productiveness of the soil. In this area this is particularly true of the Durham series and not so apparent in the Cecil and Louisa series, with their red subsoils. A deep, well-drained soil has a greater capacity for holding water, which is materially increased where there is a plentiful supply of partially decomposed organic matter.

The advantage of a good water supply may be the difference between success and failure in seasons of protracted drought. Deep plowing also lessens to a remarkable degree the damage done the soil by surface washing or erosion. When the land is properly prepared and has a fair content of organic matter, side-hill ditches and terraces in most places can be dispensed with. This beneficial feature of deep plowing has already been demonstrated by a few farmers in the more rugged part of the county. A deep seed bed also allows the heat and air to penetrate the soil to greater depths, thus stimulating chemical and bacterial activity and so contributing to vigorous plant growth.

The necessity of deep plowing is not so apparent on the deep sandy soils as on the more shallow types. The former can be more rapidly improved by the incorporation of organic matter, but on the latter this practice is of primary importance. The soils of this area are deficient in humus, which can best be supplied by the use of stable manure and the turning under of grass sod, grain stubble, or green manures. The supply of organic matter can be developed and maintained under any system of soil management which includes the frequent use of winter cover crops and summer forage. The most desirable winter cover crops are rye, oats, barley, winter vetch, and crimson clover, which not only give additional grazing but protect the soil from washing, utilize plant food that would be largely lost, add humus to the soil, and put the land in good physical condition. Where vetch or clover is used it not only increases the feeding value of the pasturage but adds largely to the nitrogen content of the soil through the assimilation of free nitrogen from the air by nitrifying organisms. To get a good stand of these leguminous crops it may be necessary to inoculate the soil. This will probably be more necessary for the clover than the vetch, as spring varieties of the latter legume are indigenous to many parts of the county. The use of vetch and oats, or vetch and rye, makes very desirable grazing or abundant forage in early summer.

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The common summer forage of this county is sorghum for hay or roughage, at times combined with cowpeas. Where heavy yields are desired the orange sorghum and the running variety of cowpeas are used. The peanut, soy bean, and velvet bean are also desirable additions to the summer forage crops, as they not only enrich the soil but replace in a measure the more concentrated feeds in stock rations. Broom sedge, which occurs throughout the thinly wooded sections of the county, is the chief reliance for early spring pastures, while patches of Bermuda grass are used for summer grazing.

Commercial fertilizers are commonly used throughout the county, consisting usually of a mixture containing 10 per cent of phosphoric acid, 2 per cent of nitrogen, and 2 per cent of potash. This is applied to cotton at the rate of 200 to 400 pounds to the acre, and usually put in the cotton beds just before planting. There is less of this mixture used for corn, although many farmers use it each year. It may all be put in at once before planting, but the practice of intercultural fertilization is becoming more and more common each year.

Where it can be secured, barnyard manure is said to give as good, if not better, results than commercial fertilizers, but the quantity made is rarely sufficient for the needs of the farm. Where used it is dropped by hand in the drill and thus made to cover the maximum area.

The productivity of the various soils of the county can be developed and maintained by more thorough preparation, the use of winter cover crops, and the more frequent inclusion of leguminous crops in rotation systems.

Randolph County offers unusually good opportunities for the profitable development of the truck, dairy, and stock-raïsing industries. Lands are cheap, good water is everywhere obtainable, and the climate is favorable to agricultural pursuits.

SOILS.

Randolph County lies in the southern part of the Piedmont Plateau, a physiographic division which at one time was a high mountain range, and which has since been reduced first to a peneplain and then to an eroded plateau by ages of weathering and erosion. The underlying rocks, from which the various soils are derived, are classified geologically as igneous and metamorphic. These rocks are the oldest known to geologists. The prevailing rocks of the area are mica and hornblende schists, gneiss, and granite. The mica schists grade through gneiss to granite on the one side and to arenaceous or siliceous schists on the other. Interstratified with all the rocks occur occasional narrow bands of hornblendic schists and sometimes chloride schists. Numerous quartz veins cut through the

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other rock formations, and from these are derived the quartz fragments so abundant in the soils of the county. The rock formations usually follow a northeast and southwest strike and are much folded and contorted.

The upland soils are derived directly from the disintegration and decay in place of the various rocks. They include a range in texture sufficient for the development of a wide and varied agriculture. Sixteen distinct soil types were mapped, not including Meadow and Rock outcrop. This classification was based on differences in color, origin, and texture (the relative content of sand, silt, and clay), and on drainage conditions, those types of similar origin and general physical characteristics being grouped into series.

The alluvial soils of stream bottoms represent material washed from the uplands and deposited by overflow stream water. The bottom lands are largely composed of Congaree soils—the Congaree fine sandy loam and the Congaree loam. The residual or upland soils comprise six series. From the mica schists—rocks which have the greatest distribution in Randolph County—are derived the Louisa and York series. The York series is represented only by the fine sandy loam, which is distinguished from the Louisa type by its yellow subsoil. It is not an important type, on account of its limited distribution. The Louisa series is represented by the clay loam, fine sandy loam, slate loam, and loam. In the southern part of the area, where the schists are brightly colored with yellow and red and are highly micaceous, drainage is excessive and the soil covering shallow, on which account shallow phases of the Louisa clay loam and Louisa fine sandy loam have been distinguished on the map. Toward the north the soils become deeper and outcrops of the parent schists are less frequent. The mica flakes become finer and in places are weathered completely to a depth of a foot or two.

To the north of the Little Tallapoosa River the mica again becomes prominent and occurs in much larger flakes. North and west of Newell the mica schists are much more massive and darker in color, while garnets are quite conspicuous all through the rock and in the derivative soil. South of Cedar Creek and west of Almond the soil is derived from interbedded granite and schists.

Gneiss and granite also contribute to the soils of the county, although the latter has a very limited occurrence. The gneiss usually occurs in rolling situations, while the granite occupies the lower levels and frequently outcrops on the surface in the form of flat rocks, as near Rock Mills, Almond, and west of Blake Ferry. The gneiss usually weathers deeply, while the granites generally give a shallower soil. These rocks give rise to the Cecil and Durham series. The Cecil series is represented here by the sandy loam, fine sandy loam, stony sandy loam, stony loam, and clay loam, which are char-

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acterized by thin red subsoils, less micaceous than those of the Louisa series. The Durham series, including the sandy loam and fine sandy loam, is characterized by its yellow subsoils.

The hornblende schists usually occur along the valley slopes, being rarely found in the uplands. These rocks give rise to a phase of the Cecil clay loam and to the Iredell loam. Some green chlorite schists are associated with the hornblende schists.

The following table gives the names and areas of the several types shown on the accompanying map:

Areas of different soils.

Soil.	Acres.	Per cent.	Soil.	Acres.	Per cent.
Louisa slate loam	95,488	25.6	Durham sandy loam	4,928	1.3
Louisa fine sandy loam	67,008	19.6	Meadow	2,496	.7
Shallow phase	6,080		Durham fine sandy loam	1,856	.5
Louisa clay loam	31,296	15.1	Cecil stony loam	1,216	.3
Shallow phase	24,896		Wehadkee loam	704	.2
Louisa loam	44,096	11.8	York fine sandy loam	512	.1
Cecil sandy loam	25,984	7.0	Iredell loam	448	.1
Congaree loam	21,184	5.7	Rock outcrop	256	.1
Cecil clay loam	11,200	5.5	Cecil stony sandy loam	192	.1
Heavy phase	9,472				
Congaree fine sandy loam	15,872	4.2	Total	373,120	.....
Cecil fine sandy loam	7,936	2.1			

LOUISA FINE SANDY LOAM.

The Louisa fine sandy loam consists of a gray fine sandy loam, 3 to 10 inches deep, which passes rather abruptly into a light-red brittle clay subsoil, usually extending to a depth of 2 to 3 feet. Where the surface covering is deep the color usually changes from gray to yellowish as depth increases, and where shallow the red is more conspicuous. Mica is more abundant in the subsoil when it is shallow and less so when developed to a depth of 3 feet or more. It does not have the peculiar greasy feel so characteristic of the type under normal conditions. Throughout the type quartz fragments are usually present in varying quantities, scattered over the surface, and quartz seams not uncommonly cut through the soil section. These fragments are more abundant about the heads of drainage ways and on the slopes. Such areas as were included with the type were not extensive enough to map on the scale used.

Another phase of local occurrence is slightly heavier in texture and is usually found in depressions or in the more level spots on the uplands. It runs to a heavy fine sandy loam in texture.

The Louisa fine sandy loam is derived from the decay in place of the underlying mica schists. These rocks weather comparatively

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slowly and occupy the highest ridges and more rolling country. They are variously colored, ranging from light-gray to dark-brown or reddish, and the beds are often twisted and bent. Mica is usually conspicuous. The quartz fragments present are derived from the quartz veins that cut through this schistose rock.

This type has the greatest extent of any soil in the county. A large area occupies the upland south of Jones Creek and extends to the county line beyond Waldrep, the northern part including Omaha. The mica in this area, though deeply weathered, is in larger flakes and a prominent constituent of the subsoil. The southern portion of this particular area, on the ridge east of High Shoals and extending to the county line three-fourths of a mile north of Mason, Ga, and also east of Omaha, is not quite typical, as the topography is much more rugged. The mica schist is interbedded with gneiss and to a less extent with quartzite, although the first-named rock predominates. Quartz and quartzite fragments are scattered over the surface, but not to an extent sufficient to show on the map, and occasionally, when the stream slopes are very steep, ledges of quartzite are exposed. The soil of this phase will range from very fine sandy loam to fine sandy loam. There is proportionately less of it under cultivation, and it has a greater organic content than the typical soil, but is not so desirable, on account of the more rugged surface features. It is said to be slightly more productive.

The Louisa fine sandy loam is typically developed on the tops of the ridges south and southeast of Wedowee. On the ridge in the vicinity of Tenant the soil and subsoil are quite deep, but mica flakes are not so conspicuous, appearing to have weathered more completely, so that the characteristic greasy feel of the clay subsoil is less in evidence, although as the underlying parent rock is approached the micaceous feature becomes more and more pronounced. This greasy, micaceous feel is characteristic of the subsoil of the type as extensively developed in the vicinity of Napoleon, including the hamlets of Peace, Corbin, and West. The mica is more conspicuous in the vicinity of Lamar and to the south.

About 1 mile from Rice Mill and southeast of Copper Mine Knob there is developed a belt of another phase, in which the soil is quite sandy, mica flakes being more noticeable, and quartz and schist fragments more abundant over the surface than is common in the more typical soil. This phase is derived from a garnetiferous siliceous schist. Seams of kaolin are quite common all through this phase. Along the southern edge of this belt the schist is interbedded with pegmatite and quartzite. The topography of this phase in general is more rugged and broken than of the more typical areas. Comparatively little of it is under cultivation.

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Cotton, corn, oats, wheat, cowpeas, sorghum, and garden truck are grown on the Louisa fine sandy loam. The yields of cotton reported range from one-sixth to one-half bale with fertilizer. The fertilizer commonly used analyzes about 10 per cent phosphoric acid, 2 per cent nitrogen, and 2 per cent potash. The quantity used to the acre varies from 150 to 400 pounds, 200 pounds being an average application. Yields of 1 bale to the acre, however, have been secured by the use of stable manure.

Corn ordinarily yields from 8 to 15 bushels per acre without fertilization, and from 15 to 40 bushels when fertilized, depending on the quantity used, cultural methods, season, etc. Average applications vary from 150 to 200 pounds, generally supplemented with stable manure, or when this is not available cottonseed meal is occasionally used. The yield of oats ranges from 20 to 40 bushels to the acre. The production of wheat is quite limited on this type, yields being in the neighborhood of 10 to 20 bushels, unless the soil has had a good top dressing of manure. Most of the sorghum grown on this type is used for hay and is sometimes grazed by live stock. Patches of sorghum are used for home-made sirup, the estimated yields ranging from 150 to 250 gallons to the acre. Occasionally sorghum and cowpeas are grown together for hay, and although no definite yields were reported, the mixture is said to produce heavy growths and to make good feed. Where cowpeas are grown alone for this purpose the reported yields range from 1½ to 2 tons to the acre. Where grown for seed they are usually planted in rows and yield from 10 to 30 bushels to the acre.

A number of vegetables do well on this type, but they are grown only for home use. Crops are not generally rotated systematically, and it is not unusual to find fields that have produced 10 successive crops of cotton. A growing practice is to plant corn one year and cotton the next, sowing cowpeas between the corn rows at the last cultivation. A less common practice is to follow corn with oats and then sorghum or cowpeas or a mixture of the two. When this is removed for hay or grazed down the land is flat broken and put in cotton the following year. This is a good practice, but it could be improved by introducing a winter cover crop of oats, rye, vetch, or bur clover just preceding the cotton, the cover crop to be plowed under in the spring before cotton-planting time.

Most of this type is deficient in humus, a good supply of which is essential for the development of the proper bacterial flora. It increases the water-holding capacity of the soil, makes it more resistant to erosion, and improves the structural conditions. Where the soil is thin deep fall plowing and the incorporation of organic matter will do much to develop and maintain better crop yields. Where, however, the fine sandy loam has a good depth, deep plowing is not

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so essential and the greatest improvement can be secured by plowing under organic matter. This can be incorporated either in the form of stable manure or by plowing under grass, grain stubble, or green manuring crops, such as cowpeas, vetch, and rye. Vetch and rye or vetch and oats or crimson clover used as winter crops and cowpeas or soy beans as summer forage ought to have an important place in the crop systems for this type. They will not only increase the humus content, but will add materially to the productiveness of the soil.

This type is well adapted to the production of garden truck, particularly Irish and sweet potatoes, but until conditions change it will probably be used for general farming. The production of fruit, although unimportant at present, would indicate that the soil is particularly valuable for some varieties of apples and for apricots. Peaches are rather uncertain, on account of late spring frosts.

The Louisa fine sandy loam is valued at $5 to $40 an acre, according to location and state of improvement.

Louisa fine sandy loam, shallow phase.—An important phase of this type (indicated by crosslines on the map) is developed in the southern part of the county, north of High Pine Creek and west of its tributary, Jones Creek, while detached areas occur east and west of the Tallapoosa. The soil is quite like that of the typical Louisa fine sandy loam, but the depth of the surface material is not quite so great, rarely exceeding 8 inches, with 24 inches about the maximum depth of the subsoil. The underlying rock is encountered anywhere from that depth to near the surface, and frequently the rock outcrops in ledges. Fragments of quartz and, less commonly, schist, are scattered over the surface, and quartz seams occur in the underlying clay. The subsoil is quite micaceous, but mica is not conspicuous in the soil, except where the underlying rock approaches the surface.

This phase is much less productive than the typical soil. The best yields are made in seasons of heavy rainfall, while crops suffer considerably in dry weather, as the position of the underlying tilted schist promotes excessive drainage. Yields of 5 to 10 bushels of corn and one-sixth to one-half bale of cotton to the acre are reported with the ordinary application of 150 pounds of fertilizer for corn and 200 pounds for cotton. To increase the production of this phase it will be necessary to incorporate a good supply of organic matter and to deepen the soil portion considerably by deeper plowing, so as to modify the structure of the immediate subsoil and thus obviate excessive drainage. The deeper the plowing is done the better will be the result. It is suggested that the disk plow, or subsoiler, be used, so as not to bring up too much of the raw clay subsoil, and that the plowing be to a depth of at least 15 inches. The organic matter will add to the water-holding capacity of the soil and the settling of the subsoil will reduce the percolation.

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LOUISA CLAY LOAM.

The Louisa clay loam consists of a brownish to reddish-brown clay loam or sandy clay loam, from 3 to 6 inches deep, resting upon a bright red, compact clay, which is usually from 2 to 5 feet or more in depth. Upon the surface is found a scattering of quartz fragments, with occasional fine particles of schists, while veins of quartz cut through the soil and subsoil. Mica is conspicuous in the subsoil, especially as the underlying rock is approached, but not so noticeable in the upper subsoil where the rocks have weathered deeply. The presence of mica in this type imparts the greasy feel so characteristic of the subsoils of the Louisa series. The areas in which mica flakes are prominent in the subsoil are locally styled "isinglass land."

The Louisa clay loam is derived from micaceous schists. The type really represents a shallow or eroded phase of the Louisa loam or Louisa fine sandy loam, being developed in areas from which the surface soil has been largely removed by long-continued surface washing. It occupies valley slopes and rolling uplands, and is typically developed south of Newell and bordering the Little Tallapoosa River. Another large area occurs south and southwest of Graham, while detached areas which have been subjected to surface washing are found all through the Louisa series.

Corn, cotton, wheat, oats, hay, and fruits constitute the important products grown on this type. More cotton and corn are grown than anything else. Cotton yields about one-third bale to the acre; corn, 12 to 15 bushels; oats, 15 to 20 bushels; and wheat about 5 bushels. The yield of cowpea hay ranges from 1 to 2 tons to the acre without fertilizer. With an average application of 200 to 300 pounds of a mixture analyzing 10 per cent phosphoric acid, 2 per cent nitrogen, and 2 per cent potash, cotton will average two-thirds of a bale. Corn yields will range from 20 to 40 bushels with an application of 100 to 150 pounds to the acre, although 40 bushels and more have been obtained by the generous use of stable manure. Spring oats without fertilizer will range in yield from 10 to 15 bushels per acre, but fall oats fertilized with an application of 100 to 150 pounds to the acre yield from 30 to 40 bushels. The yield of wheat is very low, rarely exceeding 10 or 15 bushels to the acre, and little of this crop is grown. The peach crop is quite uncertain, on account of late spring freezes, but apples are more successful. The favorite varieties grown on this type are the Horse, June, and May, with the Russet and Yeats favorite winter varieties. Plums also do well, particularly the Wild Goose and Japanese plums, while the Concord and Scuppernong are the favorite varieties of grapes.

Crops are not generally rotated systematically on the Louisa clay loam and it is not unusual for the same crop to be grown continuously

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on the same field for five years or more. On a small proportion of this type a common practice is to alternate corn with cotton and plant cowpeas in the corn just before the last cultivation. Occasionally oats or wheat are sown on corn land and when removed the following summer a crop of cowpeas or a mixture of cowpeas and sorghum grown for hay. Crops on this type do not suffer materially during extremes of wet or dry weather, particularly when the soil has been properly prepared, but where the seed beds are shallow the soil washes badly and crops are damaged. Lack of moisture during periods of drought also frequently causes loss. During showers the soil generally runs together and in subsequent dry weather forms a light crust over the surface, but such crusting is not likely to follow where cowpeas were grown the previous year or where the soil is kept well supplied with organic matter.

The position of much of this type favors erosion. Spots of red clay, or "galls," are of frequent occurrence. These spots are purely local and represent exposures of the underlying clay from which the soil has been removed. They can be improved by fall plowing, winter cover crops, and liming. The usual depth of plowing is 4 inches or less, although a few farmers are plowing deeper. Improvement is readily apparent where deeper plowing is practiced, the surface wash being lessened considerably. Over most of this type 2 or 3 inches of the subsoil can be turned to the surface without prejudice to the succeeding crop. However, the depth of plowing should not be increased too suddenly with turning plows. A seed-bed depth of 7 to 10 or 12 inches should be secured gradually. The humus content of the soil is quite low and should be materially increased. This not only binds the soil together and makes it more difficult to wash, but increases its water-holding capacity. Deep plowing, with the incorporation of organic matter and more frequent use of winter cover crops, is imperative if this soil is to be protected from surface erosion and its productiveness maintained.

The land is valued at from $5 to $20 an acre, depending on location and improvements.

Louisa clay loam, shallow phase.—One of the most important phases of the Louisa clay loam is indicated on the map by crosslines. This has probably a greater extent than the more typical soil, and occurs in the southern part of the county north and south of High Pine Creek and east and west of the Tallapoosa River.

This phase consists of a heavy loam or clay loam, 1 to 4 inches deep, resting upon a bright red, friable clay, which rarely extends below 24 inches, while in much of it the depth to the underlying rock is not over 12 inches. This clay usually rests upon the underlying mica schist, while partially decomposed extensions of the schists come to the surface at a marked angle to the horizontal. Quartz

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fragments and small chips of mica schists are of frequent occurrence over the surface, while quartz seams cut through the soil section in many places. Mica is very conspicuous in both soil and subsoil, becoming more abundant as the underlying rock is approached. This mica gives the type a greasy feel.

This phase occupies the same topography as the more typical soil and is subjected to serious surface washing. The soil is easy to work and responds to good treatment. The best crops are usually produced during seasons of heavy rainfall, but they suffer materially in dry weather, on account of the proximity of the underlying rock to the surface, coupled with the increased percolation of water downward through the somewhat porous bedrock. Yields of cotton range from one-sixth to one-third bale; of corn, from 8 to 15 bushels; of oats, from 15 to 20 bushels, and of wheat, from 5 to 10 bushels to the acre. Fall oats are not always successful, on account of winter freezes, but trouble from this source can be obviated or reduced to a minimum by more thorough preparation. This phase is deficient in organic matter.

To increase the productiveness of this soil it will be necessary to incorporate plenty of organic matter and to deepen the seed bed so as to reduce the loss of moisture through percolation. Plowing should be thorough and deep, at least 8 or 10 inches. Where the soil covering is very shallow it may be necessary to roll the land after plowing and to cultivate very shallow. Cover crops should always be grown in order to protect the soil from the heavy rains of winter and spring.

The following table gives the average results of mechanical analyses of samples of the soil and subsoil:

Mechanical analyses of Louisa clay loam.

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
413322½, 412347....	Soil.....	1.0	2.7	2.6	22.2	9.0	37.0	25.1
413323, 413348.....	Subsoil.....	3.3	8.2	5.2	18.8	6.2	23.2	34.7

LOUISA SLATE LOAM.

The Louisa slate loam consists of a light-brown or brown loam, from 2 to 10 inches deep, underlain by a red silty clay, resting upon the underlying rock at depths ranging from 24 to 50 inches. The surface is generously strewn with fragments of schist, and, less commonly, of quartz. These slabby or slaty schist fragments are usually present in sufficient quantities to interfere more or less with cultivation, and are less conspicuous on the ridges than on the slopes, where erosion has been more active and removed the soil material.

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Smaller fragments of micaceous schist, usually in thin leaves or flakes, are nearly everywhere abundant on the surface and to a less extent throughout the soil.

The Louisa slate loam is derived from the underlying mica schists, which vary from gray or pearly gray to reddish or even grayish black in the case of the more graphitic rocks. The mica is so fine and so common throughout the rock mass that it gives the rock a distinct pearly luster. Its presence is not generally apparent in the soil or subsoil, although there is enough of it to impart a slightly greasy feel.

The Louisa slate loam, as typically developed, occupies hilly topography, but the soil does not wash or erode as badly as might be expected under the existing surface conditions, partly on account of the protection or support afforded the soil material by the rock fragments on the surface. Occasional "gall" spots, or exposures of the clay subsoil, are seen where cultivated areas or old fields have been carelessly handled.

Comparatively little of the Louisa slate loam is under cultivation, the most of it being covered with pine, oak, and hickory, with an undergrowth of huckleberry bushes, broom sedges, some vetch, or other wild legumes. The largest typically developed area occurs along the west county line, between Hurricane Creek and Abner, and extends in a northeasterly direction to Wedowee and beyond. An area is also found on the uplands between the forks of the Tallapoosa River, north and southwest of McBurnett Ford. Here the soil mantle is quite deep, the weathering has been more complete, and the rock fragments which usually litter the surface are not so large or so abundant.

One of the most important phases of this type occurs on the ridge east of Cornhouse Creek and extends northeast to the county line near Sewell. This area includes Potash and Haywood, and part of it is known as the Blackjack Ridge. Two or three isolated areas occur north and south of Gaston Branch. This phase varies from a heavy fine sandy loam to a brown silt loam, ranging from 3 to 10 inches in depth. The subsoil is a friable brownish-red clay, which usually extends to a depth of 3 feet or more.

This phase represents the residual products of a mica schist, which in places is interbedded with graphitic schist. It has about the same value as the typical soil, but the topography in the eastern part of the area is quite rugged, especially where it includes Blackjack Mountain and the neighboring hills. Occasionally the soil approaches a clay loam in texture, especially where erosion has been active. That part of this same area lying on the south side of the ridge extending toward Waldrep and south toward Omaha and that part on the north side of the ridge east of Byron and northwest of Sewell rep-

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resents another phase. Here the surface 2 to 4 inches is a fine sandy loam, but beneath this heavier material is encountered, which is turned up in plowing and mixes with the surface mantle, converting the whole into a light loam or heavy fine sandy loam, with a yellowish or yellowish-red color, changing to red as the subsoil is approached. This phase has about the same value as the more typical areas, but the fragments of schists over the surface are not so conspicuous and the topography is better than in the more typical areas.

The following crop yields are reported for the Louisa slate loam: Cotton, one-third to one-half bale to the acre, without fertilizer, and from one-half to three-fourths of a bale with an application of 200 pounds of fertilizer to the acre; corn, from 20 to 30 bushels to the acre with the use of 100 pounds of fertilizer, and 12½ to 15 bushels without fertilizer; and wheat, from 10 to 20 bushels to the acre. In places the last-named crop is said to rust badly. Oats make a good growth in fall and spring, but the fall crop yields much the better—from 20 to 30 bushels to the acre. Broom sedge is used for early spring pasturage and Bermuda for summer grazing.

The soil often has a good supply of organic matter. It is not very deep, but crops do not suffer during periods of drought or from heavy rains, except where they are subjected to side-hill wash. The land composed of this type in general is so hilly and rough as to preclude the use of improved farm machinery, and crops can not be as economically produced here as in more favored sections. The rougher areas should be used for the pasturing of live stock.

Farm lands composed of the Louisa slate loam are valued at $5 to $15 an acre.

The results of mechanical analyses of samples of soil and subsoil of this type are given in the following table:

Mechanical analyses of Louisa slate loam.

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
413327	Soil	3.5	4.5	1.6	14.0	11.5	47.1	17.5
413328	Subsoil	3.0	2.0	.5	14.0	9.7	25.1	45.0

LOUISA LOAM.

The Louisa loam is a yellowish-brown to light-brown loam, 6 to 12 inches deep, underlain by a compact, brittle red clay, usually exceeding 3 feet in depth. Where this type has been under cultivation a long time the surface inch or two frequently consists of a heavy fine gray sandy loam, grading into yellow loam. In fallow fields and timbered areas the soil is a distinct loam or silty loam. Small frag-

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ments of schist and quartz, rarely more than an inch in diameter, are scattered over the surface and disseminated throughout the soil section in varying quantities, usually sufficient to give the surface soil a slightly gravelly character. This gravel is not so conspicuous where the land is freshly plowed, but is quite apparent where it has not been disturbed, and also on the surface of fields after rains. Mica scales are noticeable in the soil, but less so than in the subsoil. The subsoil has the characteristic greasy feel of the Louisa material.

The Louisa loam is derived from a greenish to brownish micaceous schist occurring more as a massive rock than slabby or slate-like formations, as in the case of the Louisa slate loam. On weathering, it breaks up into angular fragments. This rock weathers very slowly and gives rise to a rolling to strongly rolling country. Throughout these rocks occur veins of kaolin derived from feldspar, and to a less extent ores bearing copper pyrites, silver, and iron. These formations have no direct influence upon the soil, or at most only modify it in spots. Occasionally the soil is considerably deeper along the foot of slopes, owing to accumulation of material by wash from the hillsides. In some places the depth to the compact clay subsoil is 2 feet. Such spots retain moisture well and are exceptionally productive. "Gall" spots, or places where the underlying clay is exposed, are occasionally found in patches too small to map. On the river slopes the soil is shallower and rock outcrops are more numerous.

Comparatively little of the Louisa loam is under cultivation, being largely covered by a thin growth of pine and oak. The greater part of the more valuable longleaf pine has been removed Under average conditions, especially in timbered areas, the soil is fairly well supplied with organic matter. Partly on this account erosion has not been so destructive as on some of the other types, although improvident methods have occasioned some soil erosion.

Freshly cleared or "new land" gives good results with the general farm crops for a number of years, but with the continuous production of corn or cotton the yields are gradually lowered and recourse is had to commercial fertilizers to maintain the production. Cotton yields from one-half to three-fourths bale per acre on new ground, and from one-third to one-half bale, with the use of 100 to 300 pounds of fertilizer, on old land. Corn on new ground makes from 25 to 40 bushels, or an average of about 20 bushels with an application of 100 pounds of fertilizer. The yield of oats ranges from 15 to 30 bushels, and of wheat from 5 to 15 bushels per acre.

Fruit growing is confined largely to the production of apples and peaches for home use. The latter fruit is quite uncertain on account of late spring frosts. One orchard of apricots on this type was found in a particularly thrifty condition. The owner reported that the crop had never failed, and it would seem that the production

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could be profitably extended. Among the apples the Yeats is the favorite, although some Ben Davis, Red Reese, Horse, and June apples are grown. It is reported that good yields of crops can be secured on the less productive areas by the use of stable manure. Where the surface features are not too rough this type ought to be put under a more definite system of management, which should include the frequent use of winter cover and summer forage crops. The land should be more thoroughly prepared and a good organic content maintained.

In the more rugged country land of this type could be profitably used for pasturing live stock.

Farm lands of the Louisa loam are valued at $5 to $15 an acre.

The following table gives the results of mechanical analyses of samples of soil and subsoil of this type:

Mechanical analyses of Louisa loam.

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
413312	Soil	3.3	7.1	3.4	33.6	22.5	20.4	9.4
413313	Subsoil	1.3	3.3	4.2	25.3	16.5	22.2	26.5

DURHAM FINE SANDY LOAM.

The Durham fine sandy loam consists of a gray fine sandy loam, underlain at about 10 inches by a light, friable fine sandy clay of a yellow color, which extends to a depth of 5 feet or more. Over the surface are strewn angular fragments of quartz, while quartz veins frequently cut through the soil section, as they do in practically all the upland soils of the general region. Occasionally small spots of gravelly soil are encountered, and in places the surface soil has been washed so as to expose the yellow subsoil. Weathering has been so deep that it is difficult to determine the exact character of the parent rock. A number of field indications, such as an occasional fragment of rock, lead to the belief that the rock is a fine-grained gneiss.

The Durham fine sandy loam is quite limited in distribution. A typical area occurs north of Rock Mills, beyond Vineyard Branch, and there is a large area east of the headwaters of the same branch. Developments also occur to the west and north of Pittman and 1¼ miles east of Tenant. Less typically developed areas occur in the vicinity of Peavy and in small spots bordering the bottoms of High Pine Creek, where the soil has been modified slightly by the wash from the uplands, giving it in places the texture of a heavy fine sandy loam.

The Durham fine sandy loam occupies level to gently rolling uplands. Most of it is under cultivation, principally to cotton and corn.

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A considerably larger proportion of this type is devoted to cotton, corn being confined mainly to the neighboring bottoms. It is not considered a very productive soil, but this estimate can be attributed largely to improvident methods of cultivation. The following yields are reported: Cotton, 400 to 600 pounds (seed cotton) to the acre, with an application of 100 to 150 pounds of fertilizer. An acreage yield of 1,000 pounds was reported with the use of 300 pounds of fertilizer. From 10 to 15 bushels is the usual acreage yield of corn, although 40 bushels is sometimes obtained with the use of stable manure and fertilizer. Some oats are grown for pasturage or summer forage, but there is practically no grain grown on this type. The less typical areas bordering High Pine Creek produce slightly heavier crops of cotton, although the yield of corn is about the same. The crops on this type do not suffer materially in periods of drought, but are sometimes damaged in wet weather on account of the level character of the surface and consequent poor drainage.

The Durham fine sandy loam is susceptible of easy improvement by the incorporation of organic matter with the soil and the more frequent production of leguminous forage crops. Organic matter can be supplied by the use of stable manure or by plowing under cowpeas, soy beans, vetch, bur clover, rye, oats, and barley. The legumes will add valuable organic matter through decomposition of the roots even where the crop is grazed off or cut for hay. They also improve the soil by adding atmospheric nitrogen. Once a good supply of humus is secured this type should be put under a definite cropping system, which should include cover crops for the winter and leguminous forage crops for the summer, in addition to corn and cotton.

This is one of the best soils in the area for the economical production of crops, as nearly all kinds of improved machinery can be used to advantage. The type is very well adapted to vegetables, but the distance from market would probably not justify any extensive development of this industry at present. Sweet potatoes, Irish potatoes, and melons do well.

The Durham fine sandy loam is valued at $10 to $30 an acre.

DURHAM SANDY LOAM.

The Durham sandy loam consists of a gray, medium-textured sandy loam containing some coarse sand and quartz particles, grading at depths of 5 to 15 inches into a yellow friable clay. This in turn is underlain by a heavy clay carrying some coarse sand and quartz particles, the latter becoming more abundant as the parent rock is approached. The soil profile rarely exceeds 4 feet and in many places is not more than 2 or 3 feet. In some places the soil is very shallow or bedrock comes to the surface. Such areas, where

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large enough, were mapped as Rock outcrop. Over the surface of the Durham sandy loam are found fragments of quartz and of the granite from which the type is largely derived. Coarse-grain gneiss has also contributed to its formation.

This soil is quite limited in extent. It is typically developed in the vicinity of Rock Mills, along Wehadkee Creek and its tributaries. An area occurs west of Rock Mills and two small ones northeast of the same town. Near the headwaters of Wild Cat Creek are found two small patches of typical material and another one mile west of Forester Chapel. Two small spots are found on both sides of the river at Hesters Ford and a larger area west of Blake Ferry, while a small patch borders the bottoms of Caty Creek, in the southern part of the county. The Durham sandy loam occupies low valley land, usually abutting water courses or bottoms. The surface features are usually level to gently rolling.

This is one of the least productive types in the area, but it is susceptible of great improvement. It is used chiefly for the production of cotton and corn, the greater acreage being devoted to the former crop. The reported yields of cotton range from one-sixth to one-third bale per acre, and of corn from 5 to 10 bushels. Oats and wheat are rarely grown and cowpeas only occasionally. The type is so well drained, on account of its open and porous nature, that crops frequently suffer during periods of drought, while on the more level lands heavy rains do considerable damage, on account of insufficient drainage. There is very little organic matter in the soil, as a result of the clean culture required for cotton and corn. Cotton is usually grown for years on the same fields, with an occasional change to corn. The productiveness of this type can be improved materially by incorporating organic matter and by putting the land under a definite system of crop rotation, which should include winter cover crops and summer forage. The type is a splendid soil for early vegetables. Sweet potatoes and melons do well.

Lands of this type of soil are valued at $5 to $40 an acre, depending largely upon location.

CECIL CLAY LOAM.

The Cecil clay loam consists of a brown to reddish-brown clay loam to sandy clay loam, underlain at 4 to 8 inches by brittle red clay, which usually extends to a depth of 4 feet or more. Fragments of quartz are usually scattered over the surface, while grains of coarse sand and particles of quartz are frequently encountered in the subsoil.

The Cecil clay loam occupies slopes and ridges over which erosion has been comparatively active. The soil has been formed through the decay in place of gneiss and granite, mainly where the gneiss grades into schist. Where the parent rock is fine grained, coarse

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sand grains are not so common in the subsoil. Quartz veins frequently stand intact through the soil section.

The type has a very limited distribution in Randolph County. It is typically developed northeast of Roanoke, on the south side of High Pine Creek, and in detached areas around Wehadkee, while isolated areas also occur in the vicinity of Swan Hill. A large area of less typical material occurs on the east side of the river north of Island Ford. Here the soil is derived from pegmatite and hornblende schists. Large flakes of mica are not uncommon on the surface and through the soil. The areas lying to the north and southwest of Roanoke differ from the typical soil in that they are derived from interbedded gneiss, mica schist, and hornblende schists, are heavier in texture, and occupy a troughlike position. This is a stronger soil for general farm crops than the more typical areas.

The Cecil clay loam is a very shallow soil and is subjected to serious washing. The best yields are usually made in wet years. Crops suffer materially in dry weather, especially where a pulverulent seed bed has not been maintained. The sandy soils of the Cecil series are said to do much better in dry years than the Cecil clay loam.

The type is quite variable in point of productiveness in different parts of the county, the yields depending in a large measure upon the thoroughness of preparation of the seed bed and the protection afforded against surface wash. The lowest yields are generally obtained where the soil is shallow, and the highest from those fields having the deepest soil or seed bed. Cotton yields range from one-fourth to one-half bale, corn 15 to 40 bushels, oats 20 to 40 bushels, and wheat 15 to 20 bushels per acre. The incorporation of organic matter and deeper plowing improve the soil greatly, making it more retentive of moisture and providing a deeper root zone. The turning up of a small quantity of the subsoil by the use of the turning plow is not generally detrimental to crops on this type. The better plan is to extend the plowing depth gradually either with a turning plow, disk, or subsoiler until a good pulverulent bed is secured to a depth of 8 or 10 inches. On account of its sloping surface, the soil should be protected from the heavy rains of winter and early spring by cover crops of oats, rye, vetch, or bur clover, while a systematic rotation should be practiced that will make provision for these cover crops in addition to summer forage, in order to develop and maintain the productiveness of this type. Hillside terraces are of much value in checking erosion.

This land is valued at $10 to $35 an acre.

Cecil clay loam, heavy phase.—One of the most important phases of the Cecil clay loam is represented by cross lines on the map. This consists of a brown or reddish-brown, rather mellow heavy clay

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loam, 4 to 10 inches deep, grading into a stiff reddish-brown heavy clay, usually exceeding 2 feet and sometimes 5 feet in depth. Over the surface is a scattering of quartz or quartzite and schist fragments. These are rarely numerous enough to interfere with cultivation, but where this is the case the areas are indicated on the map by appropriate symbol.

This phase usually occupies the lower slopes, rarely extending to the crests of ridges or tops of hills. It is derived from hornblende schist and, to a limited extent, from chlorite schist. It covers about the same area as the typical soil and is typically developed in the large areas including the towns of Wadley and Louina. Another area includes Copper Mine, while irregular areas occur in the northeastern part of the county. Along Cornhouse Creek it is well developed. Detached areas of more limited extent occur in other parts of the county.

This is one of the strongest soils in the county for general farm crops, and generally considered better for corn and grain than for cotton. Corn yields from 30 to 60 bushels per acre; oats from 20 to 50 bushels; wheat, 15 to 25 bushels; and cotton from one-half to three-fourths bale. The best yields are obtained in seasons of heavy rainfall and the lowest in dry years. The soil is difficult to work, unless in exactly the right condition with respect to moisture content. It does not scour readily from the plow and clods are turned up if the land has dried out too thoroughly.

This phase is not subject to the same excessive erosion as the typical Cecil clay loam, although the soil portion is shallower. Most of the land is prepared in the fall and rebedded the following spring. Deep fall plowing, with winter cover crops following, and the incorporation of organic matter, will do much to improve the tilth and capacity for retaining moisture.

Typical areas of Cecil clay loam may be purchased for $10 to $15 an acre, while the heavy phase brings from $20 to $100, depending on location.

CECIL SANDY LOAM.

The Cecil sandy loam to a depth of 3 to 12 inches consists of a gray to light-brown medium sandy loam, grading rather abruptly into a heavy red clay, in which sharp sand grains and mica flakes are conspicuous. This clay subsoil continues to a depth of 3 feet or more.

The texture of the surface soil varies from fine to coarse sandy loam, the average depth being 6 inches. Quartz, some granite, and other rock fragments are commonly found on the surface and occasionally in sufficient quantities to interfere with cultivation.

The Cecil sandy loam is derived principally from gneiss and granite. The quartz veins which occur through these rocks have not

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weathered to any appreciable extent and often cut through the soil section. The type is largely developed in the southeastern part of the county, particularly in the neighborhood of Roanoke and Rock Mills. It also occurs in the vicinity of Almond, extending to the west county line and northeast along part of the Malone Road. It is likewise developed on the uplands south of Cornhouse Creek, along Wild Cat Creek, and the county line southeast of Louina.

In the vicinity of Rock Mills, along and near its contact with the Durham sandy loam, the texture is about the same as that of the latter type, but the subsoil has a lighter shade, being dull red or salmon color. In some places the boundary between the Cecil and Durham sandy loams has been rather arbitrarily drawn. This is true of the type as it occurs near the water courses southwest of Almond. In places the soil has a gray or bleached appearance, owing to the lack of organic matter. In other places, where there is a moderate organic content, the soil is darker than the average.

This type occupies level to gently rolling uplands and ridges. It is the least eroded soil in the area, although there are spots in which the soil has been washed off and the underlying clay exposed. The greater part of the type is under cultivation. It was formerly covered with longleaf pine and oak.

The Cecil sandy loam has been producing crops longer than any other soil of the area. Some of it has been under constant cultivation for nearly 60 years. It is used chiefly for the production of cotton, corn, oats, wheat, and forage crops, and to a slight extent for garden truck. Cotton yields from one-third to one-half bale per acre, with an application of 200 pounds of fertilizer, and corn from 6 to 15 bushels with the same fertilizer application. Spring oats are not grown to any considerable extent. Fall-sown oats yield from 10 to 25 bushels, the best yields being secured where the surface is top-dressed with manure. Little or no wheat is grown on this type. Cowpeas do well and acreage yields ranging from 1 to 1½ tons of forage are reported. Yields have been materially increased by individual farmers through the incorporation of organic matter and systematic rotation, including winter cover crops of grain and the production of summer legumes. The soil lies well, is easy to work, and crops mature early on it. It is better adapted to the production of early truck than of general farm crops, but conditions at present are not suitable for this change.

Lands of this type are valued at $20 to $40 an acre.

CECIL FINE SANDY LOAM.

The Cecil fine sandy loam consists of a gray fine sandy loam, 3 to 10 inches deep, underlain by a red brittle clay, extending usually to a depth of 3 feet or more. The surface is strewn with fragments of

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quartz and, less commonly, of gneiss, while quartz veins are common. Over areas too small to map rock fragments are present on the surface in quantities sufficient to interfere with cultivation, especially about the heads of drainage ways.

The type is derived largely from fine-grained gneiss. It occupies higher and more rolling country than the Cecil sandy loam and is much less extensively developed. Typical areas occur on the ridge north and northeast of Roanoke, beyond High Pine Creek, including the hamlets of White and Pittman, also on the ridge between Roanoke and Pittman, and southeast of the latter town. An area is also found west of Wehadkee and another one along the county line northeast of Wehadkee and Pittman, while small isolated areas occur in other parts of the county.

The Cecil fine sandy loam is not so uniform in depth as the sandy loam type of the series. It occupies higher ridges and is subjected to more serious erosion. Some of the soil is quite deep, while in other places it is very shallow. Numerous "gall" spots occur, in which the clay subsoil has been exposed by surface wash.

Corn, cotton, wheat, and oats are the important crops. The following average acreage yields are reported: Corn, 15 bushels; oats, 15 bushels; wheat, 8 bushels, and cotton, one-third bale. These have been secured by the use of 100 to 200 pounds of ordinary low-grade commercial fertilizer. As good and better results have been obtained by the use of stable manure.

Where the covering of fine sandy loam is shallow and, on account of slope, exposed to severe erosion, the soil should be broken to a depth of at least 8 or 10 inches and a good supply of organic matter worked into the pulverized stratum. Also, winter cover crops of rye, oats, bur clover, and vetch should be grown regularly, unless effective hillside terraces are provided. Where the sandy soil is deep the necessity of deep plowing is not so urgent, but a greater supply of organic matter is needed. This may be incorporated in the form of stable manure or by plowing under grass, grain stubble, and green manuring crops, such as rye, oats, barley, crimson clover, vetch, cowpeas, etc. A method preferred by most farmers is to graze down the forage crops with live stock and then turn the stubble under. This type should be put under some definite system of crop rotation, which should include cover crops for the winter and leguminous forage for the summer, in addition to corn and cotton. Land of this type is valued at $10 to $25 an acre.

CECIL STONY LOAM.

The Cecil stony loam consists of a brown or reddish-brown loam, from 3 to 7 inches deep, resting upon the typical red clay subsoil of the Cecil series, which usually extends to 4 feet or more. The surface

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is covered with fragments of quartz and other rock in quantities sufficient to interfere with cultivation.

One of the largest areas of this type occurs on the slope of the ridge northeast of High Shoals. It is derived from the decay in place of the underlying gneiss, although local ledges of quartzite occur. Some mica schist also is present. To the east and west of the Central of Georgia Railway, along the county line south of Roanoke, the surface soil is a heavy fine sandy loam. Here the rock fragments consist largely of quartz, although the soil is derived from granite and hornblende schist. The same is true of those areas along the county line southeast of Peavy and in the vicinity of Wadley.

With the exception of the body south of Roanoke, none of the type is under cultivation. The timber growth comprises several species of oak, hickory, and pine. The soil is so thickly strewn with rock fragments that it is usually avoided by the farmers, on account of the difficulty of working it, although cultivated patches indicate that it is a strong, productive soil. When the better soils are all brought under cultivation the rocks will be picked from much of this type and the land cultivated.

CECIL STONY SANDY LOAM.

The Cecil stony sandy loam consists of a gray sandy loam, 4 to 10 inches deep, grading rather abruptly into heavy red clay. The surface of the type is generously strewn with rock fragments, mainly of quartz, and of all sizes and shapes.

The type is derived largely from the weathering of gneiss. The topography is sloping to strongly rolling. The soil is very similar to the Cecil sandy loam, the essential difference being the greater abundance of rock fragments on the surface. It is limited in distribution to an area bordering the county line southwest of Wadley, although small patches occur through the Cecil sandy loam. Where these areas were large enough, they were indicated by symbol on the map.

The Cecil stony sandy loam is quite deficient in organic matter, though crops are said to withstand periods of drought better than on the Cecil sandy loam. It is used for cotton, corn, and oats, and the following yields are reported: Cotton, one-third to one-half bale; corn, 8 to 15 bushels, and oats, 10 to 15 bushels per acre. It is used to some extent for the production of apples, plums, and grapes, for which it is well adapted.

The stony character of the soil interferes slightly with cultivation, but when the type is plowed deep it is not so difficult to work. For the production of forage and grains it is necessary to follow the deep breaking with a drag, in order to smooth the surface so that these crops may be easily mowed. The productiveness of this type can

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be developed and maintained by a system of crop rotation, including winter cover crops and summer forage. Lands of this type are valued at $10 to $30 an acre.

IREDELL LOAM.

The Iredell loam consists of a brown, greenish-brown to chocolate-brown gritty loam, 6 to 10 inches deep, underlain by a reddish-brown or dingy-brown clay loam or clay, which quickly grades into a tough plastic clay of a yellowish or greenish-yellow color. The total depth of the soil and subsoil varies from about 18 inches to 5 feet. The surface is generally strewn with flat or slabby fragments of hornblende or chlorite schist, which characteristic has given rise to the local name of "red slate land."

The type is derived from the underlying hornblende and chlorite schist and is developed as nearly level to slightly sloping areas near the water courses. Areas occur on the public road east of Wehadkee Creek, with isolated patches bordering the bottom land of the same creek south and southwest of Pittman. Another very small area surrounded by Cecil clay loam occurs west of Cornhouse.

The Iredell loam is used for the production of cotton, corn, oats, and wheat, cotton yielding from one-third to two-thirds bale per acre, oats, 20 to 35 bushels, wheat, 18 to 20 bushels, and corn, 25 to 45 bushels. A yield of 4 bales of cotton, weighing 520 pounds each, was reported on 3 acres with the use of 300 pounds of a "blood and bone" mixture to the acre. The seed used was Cook's Improved, which is said to do much better on this type than the Russell Big Boll. It is claimed that the land makes good yields in both dry and wet seasons.

The soil is quite difficult to work and does not scour readily from the plow. This, however, could be obviated by the more generous incorporation of organic matter.

This type is a strong soil for the growth of general farm crops, but it should be put under a more definite system of soil management, which should include winter cover crops and summer forage. The land is valued at $20 to $30 an acre.

The results of mechanical analyses of samples of soil, subsoil, and lower subsoil of this type are given in the following table:

Mechanical analyses of Iredell loam.

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
113301	Soil	7.5	6.7	3.8	19.1	21.3	28.8	12.4
113302	Subsoil	1.9	4.6	3.1	14.8	14.0	26.4	34.7
113303	Lower subsoil.	1.5	2.0	1.5	10.1	18.5	27.4	38.4

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YORK FINE SANDY LOAM.

The York fine sandy loam is a gray fine sandy loam, from 5 to 10 inches deep, underlain by a compact yellow clay, which usually exceeds a depth of 3 feet. Quartz fragments are of common occurrence on the surface. Mica is not very conspicuous in the soil or immediate subsoil, but becomes more noticeable as the parent rock is approached.

This type is derived from the weathering in place of the underlying mica schists. Its distribution is limited to a small area 2½ miles west of Peace and another near the county line northwest of Kaylor.

The York fine sandy loam is used for the production of corn, oats, and cotton, the following yields being reported: Cotton, from one-third to one-half bale; corn, 10 to 15 bushels; and oats, 15 to 25 bushels per acre.

The methods of improving this type are the same as recommended for the Louisa fine sandy loam, but greater care should be exercised in turning up the subsoil to the surface with the ordinary turn plow in the more shallow areas, as it is said to be detrimental to crops. This can be avoided by the use of the disk plow. Lands of this type can be purchased for $10 to $20 an acre.

The results of mechanical analyses of samples of soil and subsoil of this type are given in the following table:

Mechanical analyses of York fine sandy loam.

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
413335	Soil	1.5	3.0	2.0	16.1	20.1	47.7	8.8
413336	Subsoil	.8	2.4	1.6	13.4	18.6	42.9	19.7

WEHADKEE LOAM.

The Wehadkee loam consists of a gray to white compact silty loam to silt loam, 4 to 6 inches deep, resting upon a light grayish yellow to nearly white compact silty clay, which at about 24 inches passes into a mottled yellowish and gray clay and then into gray or white at lower depths.

The Wehadkee loam is a first-bottom alluvial soil. It is confined to the valleys of Vineyard and Wehadkee Creeks and tributaries of Wedowee Creek south and east of Wedowee. Most of this type is poorly drained. Even the cleared areas, which are moderately well drained, are subject to occasional overflow. No crops except corn and grass do well, and these only in very dry seasons. The type is undoubtedly best suited to grass. The underlying clay is used near Rock Mills for the manufacture of earthenware and brick.

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The following table gives the results of mechanical analyses of samples of soil and subsoil of this type:

Mechanical analyses of Wehadkee loam.

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
413305	Soil	1.8	5.8	4.2	25.4	14.7	35.4	12.3
413306	Subsoil	.0	1.3	3.0	23.5	16.9	38.0	16.5

CONGAREE LOAM.

The Congaree loam is a brown to reddish-brown silt loam, varying in depth from 8 to 15 inches, underlain by a light silty clay of yellowish-brown or reddish-brown color, more or less mottled with rusty brown and yellow. The depth to the immediate subsoil of this type is quite variable. As it nears the bluffs it may exceed 3 feet, while nearing the streams the river-washed sand or sand and gravel comes closer to the surface. Mica flakes are abundant in this type, particularly where the streams traverse the Louisa soils.

This type occupies first bottoms of the rivers, creeks, and branches. It consists of alluvial material washed from various soils of the several drainage basins, transported often long distances, assorted by currents of different velocities, and finally deposited in the flood plains of the streams. Some areas are moderately well drained, although all of the type is subject to occasional overflow.

The Congaree loam is an easy soil to work and is well supplied with organic matter.

A large part of the type is covered with timber. Where cultivated it is used for the production of corn, cotton, and oats, the greater proportion of the acreage being in corn. Cotton is usually grown on the higher parts of the bottoms. The ordinary yields range from one-third to one-fourth bale per acre, though higher yields are occasionally obtained with the use of 200 to 300 pounds of fertilizer per acre. On most of the type, however, the returns are said to be uncertain, on account of the rust. The yield of corn ranges from 25 to 40 bushels per acre. Where the fields have been under cultivation for a great many years applications of cottonseed meal and acid phosphate are made. Oats do well, the yield ranging from 35 to 50 bushels per acre. Wheat is rarely grown, on account of the rust.

CONGAREE FINE SANDY LOAM.

The Congaree fine sandy loam consists of a dark-brown or yellowish-brown fine sandy loam, underlain at 8 to 12 inches by fine sandy loam to silty clay loam of a yellowish-brown or mottled reddish and

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yellowish color. This in turn is underlain by fine sand, sand, and gravel. There is considerable variation in the color and texture of the type from the surface downward, as would be expected in an alluvial soil, where the character of deposition varies with the successive floods.

This type occupies the first bottoms of the rivers, creeks, and branches. It is strictly alluvial in origin and represents material washed from the various soils of the drainage basins of the several streams. The soil is generally lighter in texture and the underlying coarse material comes nearer the surface as the stream channels are approached. In places along the banks of the Tallapoosa River narrow strips of gray or yellow fine sand were included with the Congaree fine sandy loam, as the areas were too limited to show on the map. The largest and most continuous areas occur on the south side of the Little Tallapoosa River north of Kaylor.

The Congaree fine sandy loam is used for the production of cotton, corn, and oats. Cotton yields one-third to one-half bale; corn, 15 to 35 bushels, and oats, 20 to 40 bushels per acre. The areas having a fine sand surface are less productive than the rest of the soil and rarely produce more than one-third bale of cotton and from 8 to 15 bushels of corn to the acre. Most of the cultivated area of the type is in corn, the production of cotton being largely confined to the higher lying areas. Cotton is said to rust badly in the level or depressed areas. Applications of kainit would likely diminish the damage from this source.

The soil is easy to work. It warms up early in the spring and crops mature earlier on it than on the Congaree loam. Crops suffer from occasional overflows and cotton has frequently to be replanted, but this soil sheds water much more quickly than the Congaree loam and the delays are not as serious as on the heavier type. Straightening the courses of the streams and laying tile drains would materially improve drainage conditions.

ROCK OUTCROP.

Rock outcrop embraces exposures of granite which occur in the vicinity of Almond and west of Blake Ferry. It represents areas from which the soil mantle has been removed by erosion. A few areas too small to show in color are represented in the map by symbol. These include outcrops of garnetiferous schists in the Louisa loam area and local exposures of granite in the Cecil and the Durham series. Rock outcrop has no agricultural value.

MEADOW.

The type mapped as Meadow comprises poorly drained bottom land along a number of streams. In these there is a wide range in

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the character of the soils, particularly in texture. With the establishment of good drainage this mixed bottom land could be profitably used for corn, oats, forage, cotton, and cane.

SUMMARY.

Randolph County is situated in the southern extension of the Piedmont Plateau, in east-central Alabama, and has an area of 583 square miles, or 373,120 acres. The surface varies from low, rolling ridges to roughly rolling or hilly to mountainous country. Elevations range from 550 to 1,550 feet above sea level.

The county lies within the watersheds of the Tallapoosa and Chattahoochee Rivers, the former receiving most of the drainage.

The county is well supplied with roads and has telephone and rural free delivery service.

The population of the county, 1910, is 24,659, there being very few foreigners in the county. The county is most thickly settled in the southern and eastern parts.

The climate is quite temperate and salubrious. The annual mean precipitation, 49.1 inches, is well distributed throughout the year. The growing season averages about 201 days, which is ample for the production of a great variety of crops.

Cotton, corn, wheat, oats, cowpeas, sweet potatoes, ribbon cane, Irish potatoes, rye, and barley, named in the order of acreage, are the principal crops.

Sixteen soil types, exclusive of Rock outcrop and Meadow, are found in the county. Thirteen of these are grouped in five upland soil series, viz, the Louisa, Cecil, Durham, Iredell, and York. The first-named series covers nearly three-fourths of the area of the county.

The Louisa slate loam is the most extensive type in the county, but only a small proportion of it is under cultivation. It is generally too rough for the economic production of cultivated crops and should be largely used as pasture land. It is valued at $5 to $15 an acre.

Next in point of extent is the Louisa fine sandy loam. It is used for cotton and corn, though well adapted naturally to truck crops, especially sweet and Irish potatoes. Land of this type may be bought for $5 to $40 an acre.

The Louisa clay loam has a fairly general distribution throughout the county, occurring in a deep and a shallow phase. It is subject to excessive erosion. This type is well adapted to the production of forage crops and the steeper areas should be largely used for this purpose, and as pastures.

The Louisa loam is an extensive soil found in nearly all parts of the county. As in case of the Louisa slate loam, little of the loam is under cultivation. At first productive, the fields decline rapidly

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with careless methods. Rougher areas of the type are best used for pasture; better situated areas give good yields of corn, cotton, wheat, and oats. Land of this type is valued at $5 to $15 an acre.

Nearly all of the Cecil sandy loam is under cultivation to corn, cotton, oats, and forage. It is well adapted to truck crops, but under present conditions these crops could probably not be grown profitably. The land can be bought for $20 to $40 an acre.

The Cecil clay loam, including its important heavy phase, is a valuable general farming soil. Typical areas are held at $10 to $35 and the phase at $20 to $100 an acre.

The Cecil fine sandy loam, owing to its rolling and eroded surface, is a soil of low productiveness. It has a relatively small extent and it is used for the ordinary staple crops. Farms on this type may be purchased for $10 to $25 an acre.

Of the two Durham soils the sandy loam is the more extensive; the fine sandy loam the better type for the staples of the region. Only about 10 square miles of these soils exist. Prices range from $5 to $40 an acre. The remaining upland types are of small extent. Two of them are very strong soils.

Of the alluvial soils the Congaree loam, covering 21,184 acres, is the most extensive. The fine sandy loam is also a relatively extensive type. These soils are fertile and of especial value for the production of corn and grass crops. A considerable part of these bottom lands is still uncleared.

Nearly all the soils of the county can be greatly improved by adopting methods of crop rotation, deeper plowing, and green manuring.

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PRESENTED BY MR. KENDALL

AUGUST 20, 1912.—Ordered to be printed

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[PUBLIC—No. 320.]

[H. R. 16571.]

An Act To give effect to the convention between the Governments of the United States, Great Britain, Japan, and Russia for the preservation and protection of the fur seals and sea otter which frequent the waters of the north Pacific Ocean, concluded at Washington July seventh, nineteen hundred and eleven.

Whereas the plenipotentiaries of the United States, Great Britain, Japan, and Russia did, on the seventh day of July, anno Domini nineteen hundred and eleven, enter into a convention for the preservation and protection of the fur seals and sea otter which frequent the waters of the north Pacific Ocean, which convention was subsequently ratified by the Governments of the United States, Great Britain, Japan, and Russia and the exchange of ratifications thereof was effected on the twelfth day of December, nineteen hundred and eleven: Now, therefore,

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That no citizen of the United States, nor person owing duty of obedience to the laws or the treaties of the United States, nor any of their vessels, nor any vessel of the United States, nor any person belonging to or on board of such vessel, shall kill, capture, or pursue, at any time or in any manner whatever, any fur seal in the waters of the north Pacific Ocean north of the thirtieth parallel of north latitude and including the seas of Bering, Kamchatka, Okhotsk, and Japan; nor shall any such person or vessel kill, capture, or pursue sea otter in any of the waters mentioned beyond the distance of three miles from the shore line of the territory of the United States.

SEC. 2. That no citizen of the United States, nor person above described in the first section, shall equip, use, or employ, or furnish aid in equipping, using, or employing, or furnish supplies to any vessel used or employed, or to be used or employed, in carrying on or taking part in pelagic sealing or in sea-otter hunting in said waters, nor shall any of their vessels nor any vessel of the United States be so used or employed; and no person or vessel shall use any of the ports or harbors of the United States, or any part of the territory of the United States, for any purposes whatsoever connected with the operations of pelagic sealing or sea-otter hunting in the waters named in the first section of this Act; and no vessel which is engaged or employed, or intended to be engaged or employed, for or in connection with pelagic sealing or sea-otter hunting in such waters shall use any of the ports or harbors or any part of the territory of the United States for any purpose whatsoever.

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SEC. 3. That the provisions of the first and second sections of this Act shall not apply to Indians, Aleuts, or other aborigines dwelling on the American coast of the waters mentioned in the first section of this Act who carry on pelagic sealing in canoes or undecked boats propelled wholly by paddles, oars, or sails, and not transported by or used in connection with other vessels, and manned by not more than five persons each, in the way hitherto practiced by the said Indians, Aleuts, or other aborigines, and without the use of firearms: *Provided, however*, That the exception made in this section shall not apply to Indians, Aleuts, or other aborigines in the employment of other persons or who shall kill, capture, or pursue fur seals or sea otters under contract to deliver the skins to any person.

SEC. 4. That the importation or bringing into territory of the United States, by any person whatsoever, of skins of fur seals or sea otters taken in the waters mentioned in the first section of this Act, or of skins identified as those of the species known as Callorhinus alascanus, Callorhinus ursinus, and Callorhinus kurilensis, or belonging to the American, Russian, or Japanese herds, whether raw, dressed, dyed, or manufactured, except such as have been taken under the authority of the respective parties to said convention, to which the breeding grounds of such herds belong, and have been officially marked and certified as having been so taken, is hereby prohibited; and all such articles imported or brought in after this Act shall take effect shall not be permitted to be exported, but shall be seized and forfeited to the United States.

SEC. 5. That the President shall have power to make regulations to carry this Act and the said convention into effect, and from time to time to add to, modify, amend, or revoke such regulations as in his judgment may seem expedient. It shall be the duty of the Secretary of Commerce and Labor, under the direction of the President, to see that the said convention, the provisions of this Act, and the regulations made thereunder are executed and enforced; and all officers of the United States engaged in the execution and enforcement of this Act are authorized and directed to cooperate with the proper officers of any of the other parties to the said convention in taking such measures as may be appropriate and available under the said convention, this Act, or the regulations made thereunder for the purpose of preventing pelagic sealing as in this Act prohibited.

SEC. 6. That every person guilty of a violation of any of the provisions of said convention, or of this Act, or of any regulation made thereunder, shall, for each offense, be fined not less than two hundred dollars or more than two thousand dollars, or imprisoned not more than six months, or both; and every vessel, its tackle, apparel, furniture, and cargo, at any time used or employed in violation of this Act, or of the regulations made thereunder, shall be forfeited to the United States.

SEC. 7. That if any vessel shall be found within the waters to which this Act applies, having on board fur-seal skins or sea-otter skins, or bodies of seals or sea otters, or apparatus or implements for killing or taking seals or sea otter, it shall be presumed that such vessel was used or employed in the killing of said seals or sea otters, or that said apparatus or implements were used in violation of this Act, until the contrary is proved to the satisfaction of the court, in

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so far as such vessel, apparatus, and implements are subject to the jurisdiction of the United States.

SEC. 8. That any violation of the said convention, or of this Act, or of the regulations thereunder, may be prosecuted either in the district court of Alaska, or in any district court of the United States in California, Oregon, or Washington.

SEC. 9. That it shall be the duty of the President to cause a guard or patrol to be maintained in the waters frequented by the seal herd or herds and sea otter, in the protection of which the United States is especially interested, composed of naval or other public vessels of the United States designated by him for such service; and any officer of any such vessel engaged in such service and any other officers duly designated by the President may search any vessel of the United States, in port, or in territorial waters of the United States, or on the high seas, when suspected of having violated, or being about to violate, the provisions of said convention, or of this act, or of any regulation made thereunder, and may seize such vessel and the officers and crew thereof and bring them into the most accessible port of the Territory or of any of the States mentioned in the eighth section of this act for trial.

SEC. 10. That any vessel or person described in the first section of this act offending or being about to offend against the prohibitions of the said convention, or of this act, or of the regulations made thereunder, may be seized and detained by the naval or other duly commissioned officers of any of the parties to the said convention other than the United States, except within the territorial jurisdiction of one of the other of said parties, on condition, however, that when such vessel or person is so seized and detained by officers of any party other than the United States such vessel or person shall be delivered as soon as practicable at the nearest point to the place of seizure, with the witnesses and proofs necessary to establish the offense so far as they are under the control of such party, to the proper official of the United States, whose courts alone shall have jurisdiction to try the offense and impose the penalties for the same: *Provided, however*, That the said officers of any party to said convention other than the United States shall arrest and detain vessels and persons, as in this section specified, only after such party, by appropriate legislation or otherwise, shall have authorized the naval or other officers of the United States duly commissioned and instructed by the President to that end to arrest, detain, and deliver to the proper officers of such party vessels and subjects under the jurisdiction of that Government offending against said convention or any statute or regulation made by that Government to enforce said convention. The President of the United States shall determine by proclamation when such authority has been given by the other parties to said convention, and his determination shall be conclusive upon the question; and such proclamation may be modified, amended or revoked by proclamation of the President whenever, in his judgment, it is deemed expedient.

SEC. 11. That from and after the approval of this act all killing of fur seals on the Pribilof Islands, or anywhere within the jurisdiction of the United States in Alaska, shall be suspended for a period of five years, and shall be, and is hereby, declared to be unlawful; and all punishments and penalties heretofore enacted for the illegal kill-

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ing of fur seals shall be applicable and inflicted upon offenders under this section: *Provided*, That this prohibition shall not apply to the annual killing on the Pribilof Islands of such male seals as are needed to supply food, clothing, and boat skins for the natives on the islands, as is provided for in article eleven of said convention; the skins of all seals so used for food shall be preserved and annually sold by the Government, and proceeds of such annual sales shall be covered into the Treasury of the United States: *Provided further*, That at the expiration of the said five years' suspension of all commercial killing as above provided, said killing may be resumed under authority of the Secretary of Commerce and Labor: *Provided, however*, That the number of three-year-old males selected from among the finest and most perfect seals of that age found on the hauling grounds, to be reserved for breeding purposes, in each year ending August first, shall not be fewer than the following: In nineteen hundred and seventeen, and in each year thereafter until nineteen hundred and twenty-six, inclusive, five thousand. The Secretary of Commerce and Labor, or his authorized agents, shall have authority to receive on behalf of the United States any and all fur-seal skins taken as provided in the thirteenth and fourteenth articles of said convention and tendered for delivery by the Governments of Japan and Great Britain in accordance with the terms of said articles; and all skins which are or shall become the property of the United States from any source whatsoever shall be sold by the Secretary of Commerce and Labor in such market, at such times, and in such manner as he may deem most advantageous; and the proceeds of such sale or sales shall be paid into the Treasury of the United States. The Secretary of Commerce and Labor shall likewise have authority to deliver to the authorized agents of the Canadian Government and the Japanese Government the skins to which they are entitled under the provisions of the tenth article of said convention; to pay to Great Britain and Japan such sums as they are entitled to receive, respectively, under the provisions of the eleventh article of said convention; to retain such skins as the United States may be entitled to retain under the provisions of the eleventh article of said convention; and to do or perform, or cause to be done or performed, any and every act which the United States is authorized or obliged to do or perform by the provisions of the tenth, eleventh, thirteenth, and fourteenth articles of said convention; and to enable the Secretary of Commerce and Labor to carry out the provisions of the said eleventh article there is hereby appropriated, out of any money in the Treasury not otherwise appropriated, the sum of four hundred thousand dollars.

SEC. 12. That the term "pelagic sealing" where used in this act shall be taken to mean the killing, capturing, or pursuing in any manner whatsoever of fur seals while the same are in the water. The word "person" where used in this act shall extend and be applied to partnerships and corporations.

SEC. 13. That this act shall take effect immediately, and shall continue in force until the termination of the said convention.

Approved, August 24, 1912.

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Convention Between the United States and Other Powers Providing for the Preservation and Protection of Fur Seals. Signed at Washington, July 7, 1911; Ratification Advised by the Senate, July 24, 1911; Ratified by the President, November 24, 1911; Ratified by Great Britain, August 25, 1911; Ratified by Japan, November 6, 1911; Ratified by Russia, October 22, 1911, and November 4, 1911; Ratifications Exchanged at Washington, December 12, 1911; Proclaimed, December 14, 1911.

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA.

A PROCLAMATION.

Whereas a Convention between the United States of America, Great Britain, Japan and Russia providing for the preservation and protection of the fur seals which frequent the waters of the North Pacific Ocean, was concluded and signed by their respective Plenipotentiaries at Washington, on the 7th day of July, one thousand nine hundred and eleven, the original of which Convention, being in the English language, is word for word as follows:

The United States of America, His Majesty the King of the United Kingdom of Great Britain and Ireland, and of the British Dominions beyond the Seas, Emperor of India, His Majesty the Emperor of Japan, and His Majesty the Emperor of all the Russias, being desirous of adopting effective means for the preservation and protection of the fur seals which frequent the waters of the North Pacific Ocean, have resolved to conclude a Convention for the purpose, and to that end have named as their Plenipotentiaries:

The President of the United States of America, the Honorable Charles Nagel, Secretary of Commerce and Labor of the United States, and the Honorable Chandler P. Anderson, Counselor of the Department of State of the United States;

His Britannic Majesty, the Right Honorable James Bryce, of the Order of Merit, his Ambassador Extraordinary and Plenipotentiary at Washington, and Joseph Pope, Esquire, Commander of the Royal Victorian Order and Companion of the Order of St. Michael and St. George, Under Secretary of State of Canada for External Affairs;

His Majesty the Emperor of Japan, Baron Yasuya Uchida, Jusammi, Grand Cordon of the Imperial Order of the Rising Sun, his Ambassador Extraordinary and Plenipotentiary at Washington; and the Honorable Hitoshi Dauké, Shoshii, Third Class of the Imperial Order of the Rising Sun, Director of the Bureau of Fisheries, Department of Agriculture and Commerce;

His Majesty the Emperor of all the Russias, the Honorable Pierre Botkine, Chamberlain of His Majesty's Court, Envoy Extraordinary

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and Minister Plenipotentiary to Morocco, and Baron Boris Nolde, of the Foreign Office;

Who, after having communicated to one another their respective full powers, which were found to be in due and proper form, have agreed upon the following articles:

Article I.

The High Contracting Parties mutually and reciprocally agree that their citizens and subjects respectively, and all persons subject to their laws and treaties, and their vessels, shall be prohibited, while this Convention remains in force, from engaging in pelagic sealing in the waters of the North Pacific Ocean, north of the thirtieth parallel of north latitude and including the Seas of Bering, Kamchatka, Okhotsk and Japan, and that every such person and vessel offending against such prohibition may be seized, except within the territorial jurisdiction of one of the other Powers, and detained by the naval or other duly commissioned officers of any of the Parties to this Convention, to be delivered as soon as practicable to an authorized official of their own nation at the nearest point to the place of seizure, or elsewhere as may be mutually agreed upon; and that the authorities of the nation to which such person or vessel belongs alone shall have jurisdiction to try the offense and impose the penalties for the same; and that the witnesses and proofs necessary to establish the offense, so far as they are under the control of any of the Parties to this Convention, shall also be furnished with all reasonable promptitude to the proper authorities having jurisdiction to try the offense.

Article II.

Each of the High Contracting Parties further agrees that no person or vessel shall be permitted to use any of its ports or harbors or any part of its territory for any purposes whatsoever connected with the operations of pelagic sealing in the waters within the protected area mentioned in Article I.

Article III.

Each of the High Contracting Parties further agrees that no sealskins taken in the waters of the North Pacific Ocean within the protected area mentioned in Article I, and no sealskins identified as the species known as *Callorhinus alascanus*, *Callorhinus ursinus*, and *Callorhinus kurilensis*, and belonging to the American, Russian or Japanese herds, except such as are taken under the authority of the respective Powers to which the breeding grounds of such herds belong and have been officially marked and certified as having been so taken, shall be permitted to be imported or brought into the territory of any of the Parties to this Convention.

Article IV.

It is further agreed that the provisions of this Convention shall not apply to Indians, Ainos, Aleuts, or other aborigines dwelling on the coast of the waters mentioned in Article I, who carry on pelagic

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sealing in canoes not transported by or used in connection with other vessels, and propelled entirely by oars, paddles, or sails, and manned by not more than five persons each, in the way hitherto practiced and without the use of firearms; provided that such aborigines are not in the employment of other persons or under contract to deliver the skins to any person.

Article V.

Each of the High Contracting Parties agree that it will not permit its citizens or subjects or their vessels to kill, capture or pursue beyond the distance of three miles from the shore line of its territories sea otters in any part of the waters mentioned in Article I of this Convention.

Article VI.

Each of the High Contracting Parties agrees to enact and enforce such legislation as may be necessary to make effective the foregoing provisions with appropriate penalties for violations thereof.

Article VII.

It is agreed on the part of the United States, Japan, and Russia that each respectively will maintain a guard or patrol in the waters frequented by the seal herd in the protection of which it is especially interested, so far as may be necessary for the enforcement of the foregoing provisions.

Article VIII.

All of the High Contracting Parties agree to cooperate with each other in taking such measures as may be appropriate and available for the purpose of preventing pelagic sealing in the prohibited area mentioned in Article I.

Article IX.

The term pelagic sealing is hereby defined for the purposes of this Convention as meaning the killing, capturing or pursuing in any manner whatsoever of fur seals at sea.

Article X.

The United States agrees that of the total number of sealskins taken annually under the authority of the United States upon the Pribilof Islands or any other islands or shores of the waters mentioned in Article I subject to the jurisdiction of the United States to which any seal herds hereafter resort, there shall be delivered at the Pribilof Islands at the end of each season fifteen per cent (15%) gross in number and value thereof to an authorized agent of the Canadian Government and fifteen per cent (15%) gross in number and value thereof to an authorized agent of the Japanese Government; provided, however, that nothing herein contained shall restrict the right of the United States at any time and from time to time to

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suspend altogether the taking of sealskins on such islands or shores subject to its jurisdiction, and to impose such restrictions and regulations upon the total number of skins to be taken in any season and the manner and times and places of taking them as may seem necessary to protect and preserve the seal herd or to increase its number.

Article XI.

The United States further agrees to pay the sum of two hundred thousand dollars ($200,000) to Great Britain and the sum of two hundred thousand dollars ($200,000) to Japan when this Convention goes into effect, as an advance payment in each case in lieu of such number of fur-seal skins to which Great Britain and Japan respectively would be entitled under the provisions of this Convention as would be equivalent in each case to two hundred thousand dollars ($200,000) reckoned at their market value at London at the date of their delivery before dressing and curing and less cost of transportation from the Pribilof Islands, such market value in case of dispute to be determined by an umpire to be agreed upon by the United States and Great Britain, or by the United States and Japan, as the case may be, which skins shall be retained by the United States in satisfaction of such payments.

The United States further agrees that the British and Japanese share respectively of the sealskins taken from the American herd under the terms of this Convention shall be not less than one thousand (1,000) each in any year even if such number is more than fifteen per cent (15%) of the number to which the authorized killing is restricted in such year, unless the killing of seals in such year or years shall have been absolutely prohibited by the United States for all purposes except to supply food, clothing, and boat skins for the natives on the islands, in which case the United States agrees to pay to Great Britain and to Japan each the sum of ten thousand dollars ($10,000) annually in lieu of any share of skins during the years when no killing is allowed; and Great Britain agrees, and Japan agrees, that after deducting the skins of their respective shares, which are to be retained by the United States as above provided to reimburse itself for the advance payment aforesaid, the United States shall be entitled to reimburse itself for any annual payments made as herein required, by retaining an additional number of sealskins from the British and Japanese shares respectively over and above the specified minimum allowance of one thousand (1,000) skins in any subsequent year or years when killing is again resumed, until the whole number of skins retained shall equal, reckoned at their market value determined as above provided for, the entire amount so paid, with interest at the rate of four per cent (4%) per annum.

If, however, the total number of seals frequenting the United States islands in any year falls below one hundred thousand (100,000), enumerated by official count, then all killing, excepting the inconsiderable supply necessary for the support of the natives as above noted, may be suspended without allowance of skins or payment of money equivalent until the number of such seals again exceeds one hundred thousand (100,000), enumerated in like manner.

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Article XII.

It is agreed on the part of Russia that of the total number of sealskins taken annually upon the Commander Islands, or any other island or shores of the waters defined in Article I subject to the jurisdiction of Russia to which any seal herds hereafter resort, there shall be delivered at the Commander Islands at the end of each season fifteen per cent (15%) gross in number and value thereof to an authorized agent of the Canadian Government, and fifteen per cent (15%) gross in number and value thereof to an authorized agent of the Japanese Government; provided, however, that nothing herein contained shall restrict the right of Russia at any time and from time to time during the first five years of the term of this Convention to suspend altogether the taking of sealskins on such islands or shores subject to its jurisdiction, and to impose during the term of this Convention such restrictions and regulations upon the total number of skins to be taken in any season, and the manner and times and places of taking them as may seem necessary to preserve and protect the Russian seal herd, or to increase its number; but it is agreed, nevertheless, on the part of Russia that during the last ten years of the term of this Convention not less than five per cent (5%) of the total number of seals on the Russian rookeries and hauling grounds will be killed annually, provided that said five per cent (5%) does not exceed eighty-five per cent (85%) of the three-year-old male seals hauling in such year.

If, however, the total number of seals frequenting the Russian islands in any year falls below eighteen thousand (18,000) enumerated by official count, then the allowance of skins mentioned above and all killing of seals except such as may be necessary for the support of the natives on the islands may be suspended until the number of such seals again exceeds eighteen thousand (18,000) enumerated in like manner.

Article XIII.

It is agreed on the part of Japan that of the total number of sealskins taken annually upon Robben Island, or any other islands or shores of the waters defined in Article I subject to the jurisdiction of Japan to which any seal herds hereafter resort, there shall be delivered at Robben Island at the end of each season ten per cent (10%) gross in number and value thereof to an authorized agent of the United States Government, ten per cent (10%) gross in number and value thereof to an authorized agent of the Canadian Government, and ten per cent (10%) gross in number and value thereof to an authorized agent of the Russian Government; provided, however, that nothing herein contained shall restrict the right of Japan at any time and from time to time during the first five years of the term of this Convention to suspend altogether the taking of sealskins on such islands or shores subject to its jurisdiction, and to impose during the term of this Convention such restrictions and regulations upon the total number of skins to be taken in any season, and the manner and times and places of taking them as may seem necessary to preserve and protect the Japanese herd, or to increase its number; but it

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is agreed, nevertheless, on the part of Japan that during the last ten years of the term of this Convention not less than five per cent (5%) of the total number of seals on the Japanese rookeries and hauling grounds will be killed annually, provided that said five per cent (5%) does not exceed eighty-five per cent (85%) of the three year-old male seals hauling in such year.

If, however, the total number of seals frequenting the Japanese islands in any year falls below six thousand five hundred (6,500) enumerated by official count, then the allowance of skins mentioned above and all killing of seals except such as may be necessary for the support of the natives on the islands may be suspended until the number of such seals again exceeds six thousand five hundred (6,500) enumerated in like manner.

Article XIV.

It is agreed on the part of Great Britain that in case any seal herd hereafter resorts to any islands or shores of the waters defined in Article I subject to the jurisdiction of Great Britain, there shall be delivered at the end of each season during the term of this Convention ten per cent (10%) gross in number and value of the total number of sealskins annually taken from such herd to an authorized agent of the United States Government, ten per cent (10%) gross in number and value of the total number of sealskins annually taken from such herd to an authorized agent of the Japanese Government, and ten per cent (10%) gross in number and value of the total number of sealskins annually taken from such herd to an authorized agent of the Russian Government.

Article XV.

It is further agreed between the United States and Great Britain that the provisions of this Convention shall supersede, in so far as they are inconsistent therewith or in duplication thereof, the provisions of the treaty relating to the fur seals, entered into between the United States and Great Britain on the 7th day of February, 1911.

Article XVI.

This Convention shall go into effect upon the 15th day of December, 1911, and shall continue in force for a period of fifteen (15) years from that date, and thereafter until terminated by twelve (12) months' written notice given by one or more of the Parties to all of the others, which notice may be given at the expiration of fourteen years or at any time afterwards, and it is agreed that at any time prior to the termination of this Convention, upon the request of any one of the High Contracting Parties, a conference shall be held forthwith between representatives of all the Parties hereto, to consider and if possible agree upon a further extension of this Convention with such additions and modifications, if any, as may be found desirable.

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Article XVII.

This Convention shall be ratified by the President of the United States, by and with the advice and consent of the Senate thereof, by His Britannic Majesty, by His Majesty the Emperor of Japan, and by His Majesty the Emperor of all the Russias; and ratifications shall be exchanged at Washington as soon as practicable.

In faith whereof, the respective Plenipotentiaries have signed this Convention in quadruplicate and have hereunto affixed their seals.

Done at Washington the 7th day of July, in the year one thousand nine hundred and eleven.

Charles Nagel	[seal]
Chandler P. Anderson	[seal]
James Bryce	[seal]
Joseph Pope	[seal]
Y. Uchida	[seal]
H. Dauke	[seal]
P. Botkine	[seal]
Nolde	[seal]

And whereas the said Convention has been duly ratified on the part of each of the High Contracting Parties, and the ratifications of the four Governments were exchanged in the City of Washington, on the twelfth day of December, one thousand nine hundred and eleven;

Now, therefore, be it known that I, William Howard Taft, President of the United States of America, have caused the said Convention to be made public, to the end that the same and every article and clause thereof may be observed and fulfilled with good faith by the United States and the citizens thereof.

In testimony whereof, I have hereunto set my hand and caused the seal of the United States to be affixed.

Done at the City of Washington this fourteenth day of December in the year of our Lord one thousand nine hundred and [seal] eleven, and of the Independence of the United States of America the one hundred and thirty-sixth.

Wm H Taft

By the President:
P C Knox
Secretary of State.

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62D CONGRESS, 2d Session | HOUSE OF REPRESENTATIVES | DOCUMENT No. 917

BULLETIN No. 164, ALABAMA AGRICULTURAL EXPERIMENT STATION
OF THE ALABAMA POLYTECHNIC INSTITUTE, AUBURN, ALA.

Cotton Worm or "Caterpillar"

BY

W. E. HINDS

ENTOMOLOGIST

ISSUED AUGUST 1, 1912

WASHINGTON
GOVERNMENT PRINTING OFFICE
1912

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A. R. Gissendanner, assistant.
C. D. Allis, assistant.

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[1] In cooperation with United States Department of Agriculture.

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THE COTTON WORM OR CATERPILLAR.

(*Alabama argillacea*, Hubn.)

By W. E. Hinds.

The name "army worm" is also often applied to this species, as it is to several others, among which the "grass worm" or "fall army worm" of the South is the most common. The distinction between these two species should be kept clearly in mind by the reader, as the two species have quite different habits as to the plants upon which they feed, the general manner of their feeding, and in their manner of transformation from the caterpillar to the moth stage. We are here considering only the cotton worm, which feeds upon nothing but cotton and which species has repeatedly done extensive damage to cotton throughout the South during more than a century.

The cotton worm is not a native insect in the United States, as cotton itself is not native here. It comes to us each year that it occurs in the cotton belt from the West Indies and from Central and South America, where cotton grows wild from year to year. The first serious outbreak on record occurred as far back as 1793 in Georgia and South Carolina. Since then cotton worms have been found irregularly, without doubt being dependent upon a certain coincident set of either favorable or unfavorable climatic and food conditions in its winter home as well as here.

During this 119 years there have been seven great caterpillar years, of which 1911 was the last. In Alabama, and perhaps throughout the South, 1873 will be long remembered as marking the climax of a series of three years of increasing damage. Yet in that year but 38 counties in this State reported trouble from worms. In the outbreak of 1911 before the end of the season 66 of the 68 counties in Alabama had been practically stripped by the worms. Careful field studies combined with reports received from all counties indicated that Alabama alone suffered a reduction of between 120,000 and 175,000 bales. This lint, with its seed, would mean at the minimum figure a damage of more than $7,000,000 in this one State. Similar injury occurred in Mississippi, Arkansas, Louisiana, and Texas. The severity of the injury is hidden to a large extent by the record-breaking crop produced in spite of it, and was greatly decreased from what was anticipated because of the unusual proportion of the crop of 1911 that was "made" before the end of July. Very little cotton was added to the crop after that.

In the fight against the worms in 1911 it is certain that more arsenical poison was used than has ever been used elsewhere in anything like the same area and in the same space of time. Powdered arsenate of lead was used for the first time against the cotton worm and easily

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proved its many advantages over Paris green for this purpose. During the first season much more of it was used than there was of Paris green. In Alabama and Mississippi alone more than 1,000,000 pounds of these two poisons was distributed, and the value of this item in the making of the 1911 crop was, therefore, all of $250,000. Had the poison been available and planters generally ready and willing to use it promptly and properly a very large part of the loss estimated above for Alabama could have been prevented.

CONDITIONS INDICATING OUTBREAKS.

A study of the history of cotton-worm outbreaks shows that in the years of greatest damage certain conditions have always occurred. Among the most significant of these have been unusually wet seasons, which both favored the development of the worms and retarded that of the crop. Cotton was late, or at least in thrifty, vigorous leaf, and the worms first appeared scatteringly before the middle of August in the Middle Gulf States. A condition of frequent showers and of many cloudy days during August and September has increased the outbreak. The generations or "crops" of worms are completed in between three and four weeks with constantly increasing numbers of the worms and their more general distribution. There are then certain to be three generations of worms before the cotton can be picked out. Whenever these conditions are present we may anticipate a serious outbreak of the worms. It is true that subsequent conditions unfavorable to the worms, such as extremely hot, dry weather, may serve to check the outbreak materially, but they are not likely to prevent material damage.

LIFE HISTORY.

The full life history of the cotton worm may be more easily and closely followed by the average man than can that of almost any other insect. All of its four stages are to be found on the cotton plant, all above ground, and frequently all stages may be present at the same time. Three of these stages do no damage whatever to the plant.

First stage: The egg.—The egg laid by the cotton-worm moth, or "candle fly," is of a pale bluish-green color, gradually becoming more nearly white as it approaches hatching time. It is only about one-fortieth of an inch in diameter, but a very pretty shell-like object, that can be found only by rather careful hunting on the undersides of the larger leaves around the middle third of the cotton plant. They are not at all hard to see when one becomes accustomed to them. They are always placed singly, although several may occur on one leaf. (See Pl. I, fig. 1.) The egg hatches in two or three days during warm weather, as in August, but requires a little longer time later in the season.

Second stage: The cotton worm.—The caterpillar is the only stage that really injures cotton. On hatching from the eggs the worms are pale yellowish-green in color and very inconspicuous. They are found only on the undersides of the leaves on which the eggs were laid. As they grow the markings become more distinct and frequently vary widely, showing an increase in the proportion of black especially. Fully grown cotton worms are very conspicuously

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marked, and it would seem that once seen abundantly they might always be remembered. They are rather slender and reach a length of about 1½ inches. The caterpillars of the earlier generations usu-

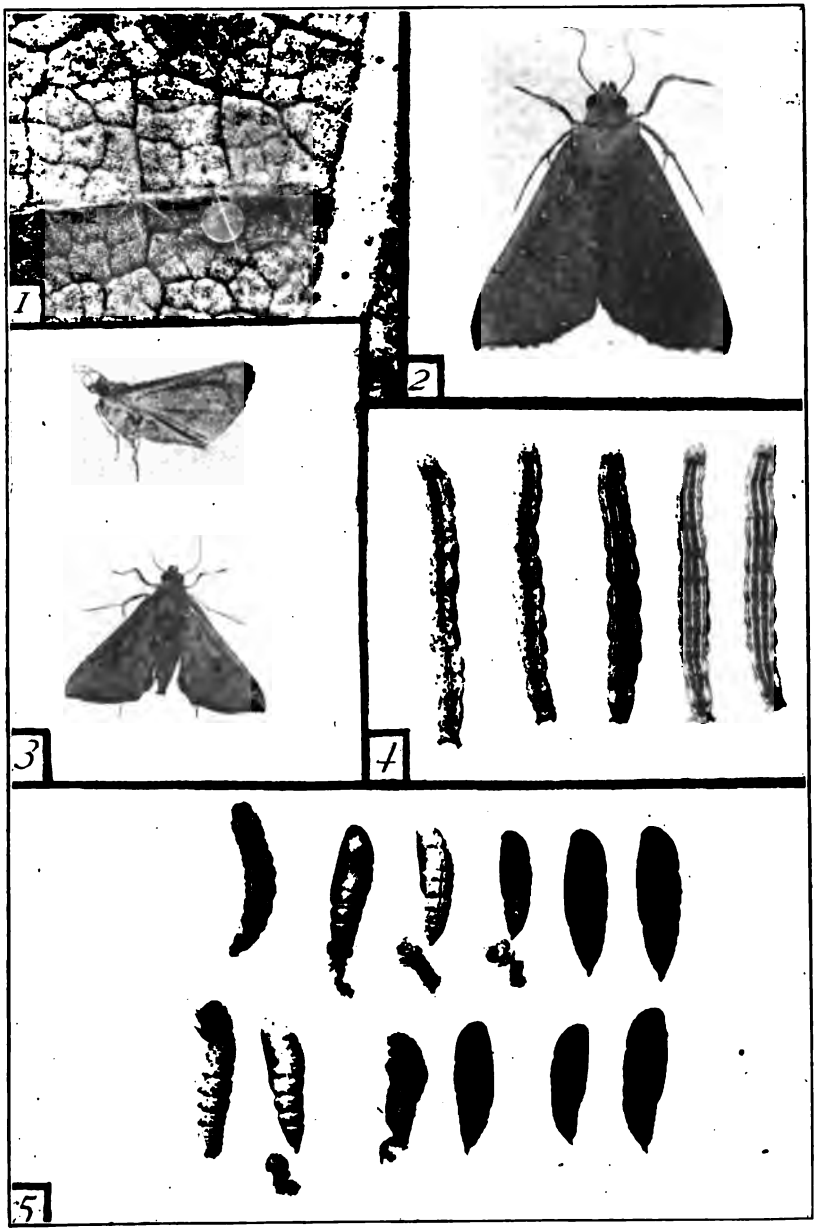

PLATE I.—COTTON WORM STAGES.

Fig. 1, the egg; fig. 2, moth, natural position; fig. 3, moth showing markings on upper and under sides of wings; fig. 4, worms showing variations in color; fig. 5, transformation to pupa. Fig. 1, enlarged x 10; fig. 2, enlarged x 2; others natural size. (Original.)

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ally show much less black than do those of a later period near the end of the season. The light forms are quite bright yellowish-green in body color, with three narrow white stripes and two rows of conspicuous black spots, each set with a black spine, arranged along its back. In these the black spot is surrounded by a circle of white color. (Pl. II, fig. 1.) The dark-colored specimens are due to the increase of black between the white stripes and including the rows of black spots which appear in the lighter worms until it forms velvety black stripes with only very narrow white stripes between. The hind pair of legs in the cotton worm stand out very prominently as they rest upon the cotton leaves. When the worms travel they go with a half-looping movement that is quite characteristic of this species. The skin is shed five times in the growth of each worm. The worms are very active, and have a peculiar method of protection by jumping quickly to a distance of a foot or two horizontally when disturbed. They may catch upon some other plant in the next row. This whole growth may occur in from 10 to 15 days usually.

As soon as the growth is complete the worms draw together parts of leaves so as to cover their bodies and spin a very loose silken cocoon, within which they transform to the moth stage. In the United States these worms have never been known to develop completely on any plant but cotton.

Third stage: The pupa.—The beginning of this stage is known to everyone as "webbing up." Within the web the caterpillar changes first through the steps plainly shown in Plate I, figure 5, to the familiar brown conical body that is known by nearly every cotton planter. This always occurs on some plant above the ground, but may be on any weed or grass that can give them the protection desired. This is one respect in which this species differs entirely from the cotton-boll worm and the grass worm or fall army worm, both of which burrow into the ground for protection while they are transforming and never go through this change on the plant. After a week or a little longer in this stage the moths are ready to emerge and they complete the generation.

Fourth stage: The moth.—Cotton-worm moths or "candle flies," as they are often called, are of the size and general appearance shown in Plate I, figure 3, and enlarged in figure 2. The general color is quite uniform olive-brown, but may vary somewhat. It is frequently a dark tan, sometimes with a purplish tinge. There is a rather distinct, small gray or black spot near the middle of each front wing and faint, irregular or wavy dark, reddish cross lines shown on the front wings. The outer edge of each wing has a narrow white fringe with dark spots on the front pair. The position when at rest is shown best in Plate I, figure 2. The moths hide by day among the cotton, and especially around grassy spots. They fly, feed, and lay their eggs at night. When disturbed they move with a peculiar swift, darting flight and hide again so quickly that they are hard to capture by hand. As with many other moths, they are strongly attracted to lights, and during outbreaks frequently make it impossible for one to read or work with a lamp in an unscreened house. These moths feed somewhat on nectar produced by many plants, especially by the leaf glands of cotton, and also upon the juices of fruits, which they can wound with their slender tongue when it is uncoiled. The moth stage

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completes the life cycle and the females begin very soon the deposition of eggs for the next generation.

Within a week or 10 days they may deposit from 400 to 600 eggs and then die, but their powers of flight are such that at the time of their death they may be many hundreds of miles from where they hatched out. A remarkable demonstration of their flight occurred in September, 1911, when store fronts and electric-light poles in Cleveland, Ohio, were thickly covered with moths of this species. They were very numerous also in New Jersey, New York, and Massachusetts, and were taken also in Maine and Canada. But in all this northern country there is no food plant for the species and all must perish. The instinct for northward flight has carried them too far.

Hibernation.—What has just been said regarding the flight of these moths will help us to understand better than we otherwise could how it is that we may have cotton worms year after year when it is probably true that very rarely, if ever, does a single moth of this species survive the winter within the limits of the United States, unless in south Florida and Texas. All immature stages die quickly with but little cold. The species appears to pass the winter where cotton also lives through and mainly perhaps in the West Indies and South America. From these far distant regions the moths fly northward with each succeeding generation until they overspread the cotton States and many others where cotton does not occur.

Feeding habits of worms.—For the first few days of their active life the young worms feed only on the underside of the leaf on which they hatch. They do not eat clear through, but leave the thin upper tissue of the leaf uncut—probably partly as a measure of protection. These "skinned spots" quickly turn brown and are quite characteristic of young leaf worm work. They are a good guide to follow when hunting for young worms. After they have shed their first skin, the worms become large and strong enough to eat through the leaves and then usually begin to move toward the more tender foliage at the top of the plant. Up to this time the young worms can hardly be poisoned by any dust method. After they move to the top they become one of the easiest leaf-eating caterpillars to destroy. They prefer the tops of the plants and the thin blade of the leaf, and these are exactly the parts where poison is most easily distributed for their destruction.

The first "ragging" begins only when many worms are about half grown—that is, about 5 to 7 days old. After that the rate of destruction of the leaves depends upon the number of worms at work. It may take a week or only two days to strip a field. In 1911 it was a very common matter to hear men tell of first discovering a few worms "ragging" their cotton on Saturday afternoon and finding early on Monday morning, when they would go out to poison, that there wouldn't be enough leaf left to put poison on. Treatment for cotton worms must therefore be made just as soon as the first signs of their work appear. There may be no time thereafter to send off for poison, even if ordered by telegraph and shipped by express. The only safe way is to be prepared, even before worms appear, with the dusting outfit made and some stock of poison kept on hand. Some illustrations of cotton worm work are shown in Plates II and III. When

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pushed for food the worms commonly destroy all squares, small bolls, and even many of those that are fully grown, and gnaw the bark

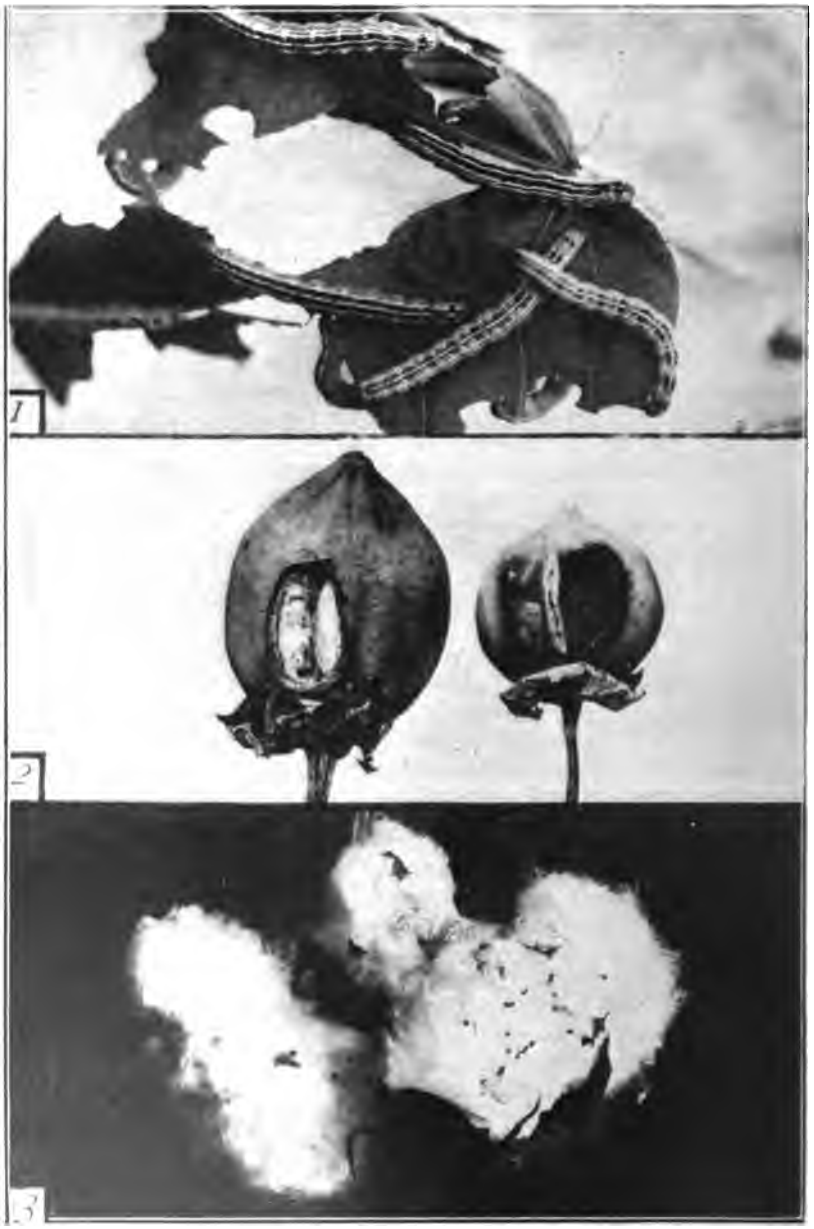

PLATE II.—COTTON WORM WORK.

Fig. 1, worms devouring leaf; fig. 2, bolls eaten into and ruined; fig. 3, lint dirty and stained. All natural size. (Original.)

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from the stalk. They may then leave the stripped field in hordes, marching for a fresh food supply; hence the name (improperly applied) "army worm."

Generations.—As shown in the account of its life history, the life cycle is completed in about three weeks. There are therefore really some six or more generations of these worms somewhere on cotton during our usual growing season. It is customary for planters to speak of that generation which does the first noticed "ragging" as being "the first crop," and the succeeding "crops" are numbered accordingly. We usually have three destructive generations in years of severe outbreaks. In Alabama, in 1911, the first stripping occurred toward the latter part of July. In other fields there was more general stripping before the 10th of August. By the middle of the month 58 counties reported worms. Up to this time the damage might be considered local rather than general. From the moths that were very numerous between August 10 and 15, the next generation was expected to and did strip cotton generally during the last 10 days of August, and the next generation appeared about the middle of September. The most favorable and effective time to poison these worms is at the time the first worms of each generation move to the tops and "ragging" begins, provided a poison like arsenate of lead is used that will adhere to the leaves in spite of rains for a sufficiently long time to kill practically all worms in the generation as fast as they become large enough to eat through the leaves. Generations become less clearly defined and the difference in time between the first and last members in each becomes greater with each successive "crop" of worms.

Enemies.—The cotton worm has a number of natural enemies, some of which are quite important as aids in destroying them. Among these are some of the small brown ants, known as "fire ants"; ground beetles, wasps, and predaceous bugs; parasitic flies and wasps upon the eggs, the worms, or the pupæ; birds, etc. All of these help, but even when most effective it is hardly possible for them to prevent the multiplication of the worms to a point where it will not require the application of poison to save the cotton.

POISONING COTTON WORMS.

As has been explained, the feeding habits of these worms are such that it is a very easy species to control by simply dusting an arsenical poison lightly over the top of the cotton plants. The discovery that this could be done is said to have been made in 1872 by an Alabamian living near Mobile. At any rate, the use of Paris green for this purpose began at about that time, and it was used quite extensively in 1873, which was such a disastrous year for this State. In 1879 agents of the United States Department of Agriculture working in Alabama made a series of tests of various poisons and established the superiority of Paris green among all the materials known at that time. Paris green remained the best material known until 1907, when powdered arsenate of lead was first produced for special experiments with it against the boll weevil. In 1911, therefore, occurred the first opportunity for comparing this new material with the more widely known Paris green for cotton worms.

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Powdered arsenate of lead.—This is by far the best poison for the control of the cotton worm. There is a "paste" form made which can not be used except for spraying. The other form known as "powdered" arsenate of lead is a very fine white powder having about one-half the amount of arsenic in it that is in Paris green, and should therefore be used at least twice as strong as we use Paris green to secure the same killing power. It never burns, even if applied to foliage in heavy doses, and sticks to the leaves very well in spite of rains. It seems to be so very fine that it gets into the small depressions on the leaves and the water runs over it. We therefore advise a dose of 3 pounds of powdered arsenate of lead per acre for average cotton when this can be secured in place of Paris green. No flour or any other material is needed in this case. Closely woven flour-bag cloth or unbleached sheeting should be used with this very fine material. It is easier to apply this arsenate of lead evenly than it is Paris green and flour.

Paris green.—For nearly 40 years this has been the best poison known for the cotton worm, and for this reason is still in demand among those who have used it or who have not yet tried the arsenate of lead.

Other poisons.—No other poisons now on the market need be considered. Arsenite of zinc might have value, but has not yet been tested on cotton. London purple is certain to burn badly, and white arsenic is sure to kill every leaf it is put on. Do not waste time and opportunity fooling with untried or unreliable or fake remedies.

Comparisons.—It is a well-known fact that Paris green is very likely to burn cotton foliage in spots even where carefully distributed and is certain to do so where at all carelessly put out. Many planters know also that it has the effect of checking the setting of fruit when applied to young cotton even where burning of foliage is not apparent. This is a matter for very serious consideration. We can not advise the application of Paris green to any cotton until after the crop of bolls is well made and nearly mature, if it be possible to secure the arsenate of lead in its place.

Furthermore, it is well known that Paris green, even when applied with flour, is readily washed off the plants by rains and even by heavy dews, so that the effectiveness of an application may be entirely destroyed within 24 hours. In many places there is also a strong prejudice against Paris green because of the fact that it is likely to cause sores on the men and mules using it for any considerable length of time. In some cases in 1911 this resulted in the positive refusal of workmen to continue handling Paris green. The trouble on the plant, workmen, and animals is that Paris green contains four or five times as much water soluble arsenic as does the arsenate of lead, and this is the constituent that burns.

On the other hand, powdered arsenate of lead even when applied as heavily as 10 pounds or more of the undiluted poison to the acre does not burn foliage and does not check the setting of fruit. This material adheres to the foliage five times as long as does Paris green. It therefore gives the plants all the advantage of continuous protection and is economical to use because fewer applications are required. Many hundred thousand pounds of this material were used in 1911 without a single record of its causing sores on men or mules. Therefore, while costing slightly more per acre for the poison and requiring

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the application of more powder to the acre than is the case with Paris green, the real saving in the crop and the safety with which it may be applied makes this material the best that we know for application, particularly to cotton before the crop is nearly matured, at which time Paris green could be used if already on hand. Never use white arsenic or London purple on cotton.

Paris-green treatment is cheaper than that with arsenate of lead if we consider only the first cost of the materials used in each application, but real economy is measured by the saving in crop obtained as compared with the total cost of protecting it to the end. On this basis it may be far more expensive than the lead for any one or all of several reasons. A heavy rain falling within 24 hours after the application will so wash Paris green from the plants that it may be almost wholly ineffective and the work must therefore be done over at once. That application was therefore entirely wasted. Again, if through its effect on the plant in checking fruiting, there results the throwing off or prevention of making of even one boll on every 10 stalks on the average, then it will cost more than the arsenate of lead treatment. The effect would surely be much greater than this.

Analysis, with quotation of price.—The large stocks of both Paris green and arsenate of lead in Alabama include the products of several different manufacturers. In all cases where considering the purchase of either poison the buyer should insist upon being given a statement of the guaranteed analysis of the poison, together with the quotation as to its cost, just as he would do with a fertilizer, like acid phosphate. In this way he can best determine where he can get the maximum of insect-killing value at the minimum cost. Arsenate of lead should contain from 23 to 33 per cent of arsenious oxide, and the cost may vary accordingly. Paris green should have 50 to 56 per cent arsenious oxide. In case of extreme shortage of poison it may be necessary to make use of what stock is available of what is known as "Paris-green residue," which is a low-grade product not ordinarily used as an insecticide. In many localities planters may combine their orders and secure the benefit of lower prices and freight rates. Neither poison loses strength and they may be kept for years if simply kept very dry.

INFORMATION ABOUT USING POISONS.

Arsenate of lead.—With powdered arsenate of lead we make it the general rule to apply at each application as many pounds per acre as the cotton is feet in height. These limits can be drawn in somewhat, as 2 pounds will be needed even on small cotton, and that 6 feet high could be fairly well protected with 4 or 5 pounds. The cost of the poison will probably average close to 25 cents per pound for 25 to 33 per cent powdered arsenate of lead. Multiply this by the number of pounds to be used per acre and add about 5 or 10 cents for the labor of application to get at the cost of treatment.

Paris green.—This material can not be applied with any assurance for the safety of the plant stronger than 1 to 1½ pounds per acre. With this we must use some 2 pounds of flour for every pound of Paris green to be applied. The poison will cost also about 25 cents per pound in small lots. To this add the cost of flour and labor.

Number of applications needed.—This depends on which poison you decide to use. With the arsenate of lead it was found in 1911

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that one good dusting applied at the beginning of each "crop" of worms would give the cotton full protection from the entire generation. This material sticks in spite of dews and rains, so that it remains effective for the last as well as the first hatched worms in each generation. Experience has shown, however, that even with this a new application must be made at the beginning of each "crop" of worms. Three treatments with arsenate of lead may be expected to carry the crop through the worst part of even the most serious outbreaks. The stock of poison needed may be closely estimated and purchased at the beginning of the season.

With Paris green so much depends upon the state of the weather that it is simply impossible to tell with any certainty how many applications may be required. In 1911 fields were seen where three and four applications had been made for *one* "crop" of worms, and the plants were in bad shape then. It will not be safe to count on having to make less than five applications of this material, and even then the protection given the crop may be less complete and continuous than with the other poison.

When to apply poison.—Watch your cotton closely and frequently for the first signs of worm work. These usually occur in the low wet places where the cotton is rank. The cotton worm feeds on no plant but cotton and few other worms do a similar work in "ragging" the leaves or stripping the plants. The "first crop" of worms will usually appear in spots through the field and not attacking all parts uniformly. The worms should be poisoned at once whenever and wherever they are found to be "ragging" the tops of the plants. At the time of appearance of the "first crop" it will not pay usually to treat the whole field unless the worms are scattered through it. If the "first crop" appears in considerable numbers during the last of July or first of August, and if the season is rather wet and cotton rank and thrifty, then there is great likelihood of extensive damage from the "second crop" which may appear in from 10 to 15 days after the worms of the first crop spin up. Every preparation should be made in advance when such conditions occur so that the whole cotton crop may be treated without a single hour of avoidable delay. Have the dust poles and bags ready and the stock of poison on hand. Such preparation is essential to the best success in controlling these worms. One dollar expended in poisoning caterpillars during August may save from $10 to $50 loss in the crop. It pays to kill the worms early. (See Pl. III, figs. 1 and 2.)

Sources of poison supply.—These arsenical poisons are manufactured entirely outside of the cotton States. The addresses of manufacturers and wholesale dealers can be obtained from a local druggist or by writing to the State experiment station and quotations on large quantities thus gotten at bottom prices. Most buyers, however, will not prepare early enough to allow shipments from long distances to reach them in time to save their cotton. They depend upon reaching a nearby center of supply. In each of the larger cities of Alabama may be found one or more firms handling these poisons. They should advertise their stock during every outbreak of worms so that farmers may know where to get their poison with least delay.

Place your order early. You can not expect a dealer to assume all the responsibility and carry a stock large enough to cover all possible demands in his territory. Bankers, merchants, oil-mill men and

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fertilizer men especially should make it certain that an adequate supply of poison can be had by their customers without delay and

PLATE III.—PROTECTING COTTON FOLIAGE.

Fig. 1, on left, foliage saved by poisoning; on right, cotton stripped by worms and crop cut 8 per cent. Fig. 2, very rank cotton protected through season by three dustings with arsenate of lead, yielding nearly 2 bales per acre. (Original.)

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every assurance given the farmer that he can get this poison at very reasonable cost. Those who have already "advanced" on the crop should insist that their customers apply the poison for the protection of their common interests.

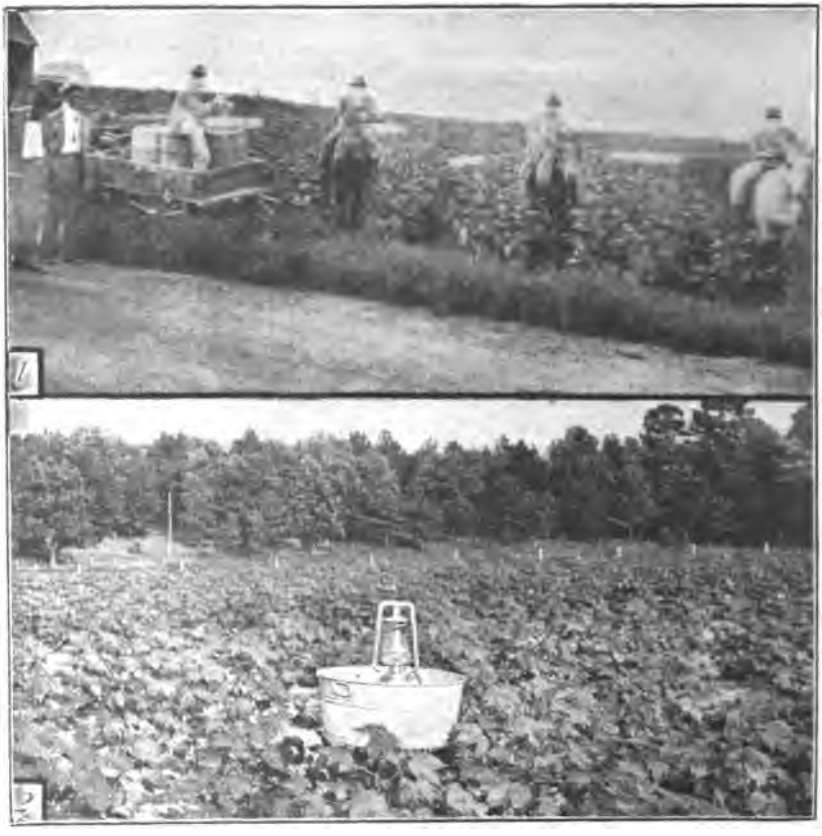

PLATE IV.—APPARATUS FOR DESTROYING WORMS.

Fig. 1, large scale work economically done; fig. 2, trap lantern utilizing washtub—a shallow pan is even better; fig. 3, dusting outfit of good type.

Methods of application.—Either of these poisons can be applied as a spray or a dust. Few cotton planters, however, have equipment for the spraying and that method of application requires slower work

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than the dusting. Under the subject "Feeding habits" we have shown why a dust application is unusually simple and effective for the cotton worm and that is why we recommend the dust treatment.

THE DUSTING TREATMENT.

The simplest possible method for destroying cotton worms is to apply a dry poison like Paris green, or better, powdered arsenate of lead, dusted through bags carried at the ends of a pole or piece of narrow board, by a man riding a mule. This covers two rows at a time and 15 to 20 acres can be treated by one man in a day. On moonlight nights the work might probably be continued in cases of emergency. Somewhat less uniform but more rapid work can be done by making the board long enough to cover four rows, or better, three middles. Two bags should be used on each side, if the board is more than 10 feet long, to give better distribution of the dust. The spring in the longer boards makes it unnecessary to jar them. They may simply be held firmly on the front of the saddle and the mule ridden at a trot, leaving a cloud of dust behind. Where several men are working, they should ride abreast.

The outfit.—To make the dusting outfit, take a piece of 1 by 3 or 1 by 4 inch board and cut it about 18 inches longer than the distance at which the cotton rows are planted. Also cut four blocks off of the same board each about 4 inches long. In each end of the main board bore a 1-inch, or larger, hole, through which the poison can be poured into the finished bags. These holes may be closed with plugs or stoppers after the poison has been introduced. Nail the four blocks on the underside of the board, one at each end and the others about 16 inches from the ends. These blocks thus form the ends of the bags. The long board may be cut down in the middle to a width that is easy to hold in the hands and so as to remove unnecessary weight. (See Pl. IV, fig. 3.) For the bags to be used with arsenate of lead or Paris green with two parts of flour, such a cloth as unbleached domestic or sheeting answers well. This cloth will distribute about 3 pounds per acre. This should be folded over, stretched, and tacked closely to the side of the board, then around the blocks and to the board on the other side. The amount of poison distributed will depend upon the tightness of weave of the cloth and the jarring given the pole. If, with rather continuous jarring, not enough poison is being distributed, simply use more open cloth for the bags. Old flour bags may be used if on hand. Where it is desired to put out 5 or 6 pounds per acre, use double cheesecloth for the bags.

With Paris green a closer woven cloth may be needed and "8-ounce duck" may be used for light applications of the pure poison without any flour. It is desirable to use about 2 pounds of flour with each pound of Paris green to increase its sticking to the leaves, and flour bags or sheeting may then be used. Do not try to use old "oat sacks" and think that the work can be done economically.

Suggestions regarding applications.—The best air condition for applying a dust is found when it is still. The worms feed principally at night and in the early morning before they have difficulty in getting enough food. After that they may feed during bright days and are always more generally active during cloudy days. Dust poisons applied toward evening are therefore likely to be on the plant in

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their maximum strength while the worms are feeding most actively. Dew forming on the poison helps to fix it in place, but very heavy dews that drip from the plants may wash off a large part of the Paris green within a short time even without rains. When dusting while dew is on it is very important to avoid touching the dust bags to the plants, since if the cloth becomes wet the dust can not pass through it. Never attempt poisoning during or just before a rain with Paris green. Arsenate of lead can be put on with assurance that it will stay if it only has time to once dry on the leaves. There is a much greater safe-working margin with it than with Paris green in the dosage that can be safely used, the length of time that it can be used before the worms will get to it, and the sureness of the protection obtainable in showery weather.

Keeping track of weight.—A spring balance weighing up to 20 pounds is a convenient help in keeping close track of the amount of poison being put out. Weigh the whole outfit, pole, bag, and poison, after the poison has been put in and it is ready for the rider. After half an acre (an acre is 70 by 70 yards) or any known area is covered weigh again. The difference in weight shows just exactly how much poison has been put out on that area, and if too much is gone for the rate desired, either use heavier cloth for the bags, add another covering of thin cloth, or try lighter jarring. If Paris green is being used the proportion of flour to poison may be increased. If too little poison is going out, jar more heavily or use a lighter weight or more open cloth. This means economical treatment.

IS THERE DANGER IN USING POISONS?

This is one of the questions most commonly asked by those who have never yet used any. Fortunately the danger is far more imaginary than real. Both fear and danger in the use of poisons for the cotton worm or other insects arise almost entirely from ignorance as to their nature and effects. Only when very carelessly handled is there any real danger in using either Paris green or powdered arsenate of lead. Of course, both are strong stomach poisons, and their value in protecting cotton from the worms lies in this fact. They are not at all likely to produce any serious effects unless taken into the stomach of man or beast in very appreciable quantities. There is no real danger from getting either on the skin. It is true, however, that Paris green is liable to cause rather bad sores on men and mules where they are working with it constantly for several days in succession. This is due to the same quality of Paris green that makes it bad to use on thrifty growing cotton. It usually contains about 3 per cent of arsenic in a form that is soluble in water or in perspiration. This causes the burning of foliage and also the sores on men and mules. This, however, never happens with the arsenate of lead. The only real danger to stock lies in allowing animals to get into freshly poisoned fields and to feed therein for several hours at a time. One case is known to me where cotton was planted on a steep slope nearly encircling a small pool into which it drained. No stream flowed through or from this pool, but it was used as a water hole for some farm stock. Very soon after the cotton was very heavily poisoned with Paris green a heavy shower washed it from the plants and down the steep hillside into the water hole, where it was held and concentrated to such an extent that

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some of the animals drinking there were poisoned. But these conditions would not occur again in many thousands of cases. Every report of the killing of men and of mules that could be investigated in 1911, with only one exception, were found to be mere "rumors" or mistakes. In that case an animal broke into a freshly poisoned field and fed all night, so that it got a fatal dose. There is very rarely need to muzzle mules to protect them during an application. There is no chance whatever of "poisoning the soil," and no danger in letting stock feed, even where arsenate of lead has been used, after a month's time. There is no danger to stock drinking from running streams passing through treated fields nor to cotton pickers at picking time. Poultry may possibly be killed if allowed to feed extensively on worms dying from poison. A few simple, sensible precautions should, however, be observed.

Precautions.—Keep all poison so marked in a plain manner and store it in a dry place out of the reach of children and farm animals. Fill cuts or scratches with vaseline or some grease and tie a cloth over it or wear gloves. Work toward the wind if it is blowing across the field. Tie a cloth or handkerchief over the mouth and nose if obliged to ride with the cloud of dust to any great extent. Clear the throat occasionally and spit out the accumulation instead of swallowing it. If using Paris green, brush off or wash off mules and men after the day's work. If the work extends over several days, change men and mules to give each a rest, for it is hard work when followed constantly. Shut up poultry for two or three days when cotton, where they might spend most of their time, has just been treated. In case of accidental poisoning, produce vomiting as quickly as possible by running a finger down in the throat. Hot milk or mustard water will usually start it. Then give milk, raw whites of eggs, or magnesia (magnesium oxide), a rounding teaspoonful in a glass of milk. Get a doctor at once.

LIGHT TRAPS.

Cotton worm moths are readily attracted to lights and may be trapped in large numbers, thus preventing many worms, but at best this can not be considered as a substitute for poisoning. It will be helpful to test the emergence of the moths in this way and thus to know just when to begin the applications of the arsenate of lead.

A lantern or light trap (see Pl. IV, fig. 2) may be easily and cheaply made, as follows: Arrange in some way by using a box, barrel, or stake with a board on top, to raise the trap a foot or two above the tops of the cotton plants. Place on this a shallow pan or a tub containing an inch of water, with just enough kerosene or coal oil to form a film over its surface to kill the insects that may fall into it. In the middle of the pan set an ordinary lantern. Let this burn through the night to attract the moths which may come from some little distance to it. No one knows how far this will attract them. Doubtless much depends upon the brightness of the light or the darkness of the night. There is no danger of drawing moths to the field without catching them and thus decreasing their injuriousness. The whole effect is like that of pouring water. It flows only as you lower the surface at some point. Such lights will attract

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many moths and other insects beside the cotton moth, and the oil will so change the appearance of those caught that one must know the moth well by size, shape, and wing markings to tell them. Bonfires do less good than lanterns, as the heat repels the moths before they get singed. Flying against the lantern, they simply drop into the oil and water.

DOES IT PAY TO FIGHT COTTON WORMS?

It seems almost ridiculous to ask such a question, and yet from the fact that a very large majority of cotton planters will sit quietly by and see their crop eaten up and their season's work largely destroyed, without being willing to spend from $1 to $3 per acre to save it, it appears that the average man does not yet believe that it will really pay him to make this fight. Let us therefore consider the question a fair one and figure out the answer.

On the average field there are at least 5,000 cotton plants, and with most varieties it does not take over 80 bolls to make a pound of seed cotton. One boll to the plant therefore means about 60 pounds of seed cotton, containing about 20 pounds of lint and 40 pounds of seed. At the price of the 1911–12 season this lint is therefore worth over $2 and the seed about 50 cents more, giving us a total value of over $2.50 for each boll per stalk per acre. Now, an average application of arsenate of lead will cost about 75 cents for the poison and not over 15 cents per acre for its application, a total of 90 cents per acre for each application, which is only about one-third of the minimum saving in the crop if by the treatment we insure the opening of but one more boll per stalk than would have opened otherwise. One boll per stalk will pay for the three complete poisonings, which is the maximum that may be required for the three "crops of worms" which may appear before the cotton is ready to open. Will it pay? Who does not believe that by saving the foliage on his cotton from the worms he can save more than one boll per stalk? In 1911 in cotton fields thought to be so nearly mature that the worms would do them no harm whatever, few escaped without the loss of two or three bolls per stalk. In 1911 the average damage throughout Alabama could not have been less than 10 per cent of the crop gathered, or somewhere between 150,000 and 200,000 bales for the State. The cotton-worm tax here last year was probably not less than $10,000,000, and would have been far more but for the fortunate fact that in that year between 90 and 95 per cent of our crop was "made" before the 1st of August. Very little increase took place after that time. Our crop of 1912 averages all of three weeks later than that of 1911. The possibility of injury to the 1912 crop is therefore correspondingly greater.

COTTON WORM VERSUS BOLL WEEVIL.

We have here a peculiar case of natural conflict between two exclusive cotton pests attacking normally entirely different parts of the plants. The boll weevil depends absolutely upon the presence of squares and bolls for opportunity to reproduce. When the fields are stripped clean by the cotton worm nature demonstrates to us on a large scale the value of a practically complete destruction of cotton at an early date as a measure of control for the boll weevil. In seasons

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of general cotton worm occurrence the late developed weevils are so reduced in numbers that the cotton crop of the following year is usually but lightly infested until an unusually late date the following year, with consequent advantage to the crop. One cotton pest—the cotton worm—thus serves to control the other—the boll weevil. The cotton worm may be considered as a friend by the planter in weevil territory when it occurs after the bolls are all practically full-grown, because of this effect on the weevil. Whenever the two pests occur together before cotton has reached this stage poison should be used for the cotton worm, as only thereby can the largest possible crop be secured. As a general rule in Alabama cotton worms should be poisoned everywhere until the 10th to 15th of September. Cotton should be picked out as promptly as possible after it opens, and then the planter may complete, by deeply plowing under or by plowing out and burning the stalks, the control of the boll weevil that may be begun by the cotton worm.

COTTON WORM APPEARANCE, 1912.

The first appearance of cotton worms in the United States this season was, as usual, in the southern extremity of Texas. This was noticed about the 1st of May. The third generation in that section became mature about the middle of July.

During the first week in June a number of moths were taken at lights in Mobile, Ala. These may possibly have flown across the water from some of the West Indian Islands. Cotton worms were found in, or reliable reports of their occurrence received from, Alabama counties on the following dates: Mobile, June 6; Conecuh, June 21; Autauga, July 12; Pike, July 18; Geneva, Covington, and Montgomery, July 19; Butler, July 22; Perry, July 24, etc.

On July 24 Prof. R. W. Harned, of Mississippi, reported cotton worms as occurring in Lowndes, Monroe, Oktibbeha, and Noxubee Counties, in that State. We are now having in coincidence the conditions that have occurred whenever there have been general outbreaks of the cotton worm, and there is little likelihood that we shall escape this year. At the present time the prospect is for fully as extensive an outbreak, and for even more serious injury to the crop than occurred in 1911. We can only hope that by last year's experience we may be more promptly and fully prepared, so that we may make the fight this year more general, more economical, and more effective than any such fight has ever been before. It will pay to poison even as the bolls are opening to keep the lint free from trash and staining, which is frequently a serious matter, as suggested in the view in Plate II, fig. 3.

It has been so clearly and abundantly proven that cotton can be completely protected from this pest at very low cost compared with the loss that is bound to be sustained if the cotton worms are allowed to strip the fields at any time before the crop is fully matured, that no one should hesitate to undertake to fight against the cotton worm.

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